



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

December 2021 - Volume 16 Number 12

Center of Hope



Center of Hope Donations - Best Total \$ Ever !

2022 Officers Elected



President
Nick AC8QG



Vice President
Mike N8WCP



Treasurer
Greg KA8TOA



1 Year Trustee
John WG8X



2 Year Trustee
Tom KB8UUZ



3 Year Trustee
Chuck W8PT



Past President
Tom WB8LCD



PCARS K8BF

The Club that puts the FUN in Ham Radio!





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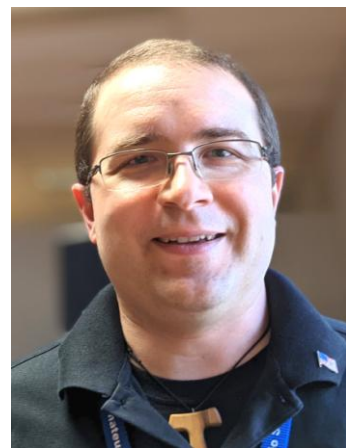
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From the President



Nick, AC8QG
PCARS President



Center of Hope Fundraiser

We did an outstanding job raising money for the Center of Hope. Our total donation this year was **\$10,471.76!** I am incredibly proud of this club and its support of the Center of Hope. Supporting our community is an important part of our mission. Thank you all so much for your help and generosity.

December Christmas Dinner

I hope to see all of you at the December Christmas Dinner. **Don't forget: reservations are due by December 3rd.** This event is open to all PCARS members and their families. It's always a lot of fun, so please join us for an evening of fellowship with the club.

Election of Officers

Our election of officers was completed at the November meeting and I am proud of the team we have for 2022! Many thanks to all our new and returning club officers. This would not be possible without your support, generosity, and dedication.

To our incoming and returning officers, thank you for stepping up and embracing the challenge of an officer position for 2022. I know we have great opportunities next year and in the years to come. I'm grateful you're here to help turn the possibilities into realities.

With the elections behind us, I am actively looking for volunteers for several appointed positions. Please contact me at president@portcars.org or talk to me at any meeting or event if you can lend a hand. We need your help!

Merry Christmas and Happy New Year

Finally, I wish all of you and your families a very **Merry Christmas** and a **Happy New Year!** I hope you enjoy some quality time with your loved ones and friends.

I look forward to joining all of you for another year of BIG FUN!



From the Vice President



Mike N8WCP
PCARS Vice President



I hope our club members had an enjoyable Thanksgiving and are looking forward to our club's Christmas dinner.

As the end of the year nears I take time to review my achievements both personal and business to identify areas for improvement. Given the multitude of challenges 2021 threw at us I'm amazed at the resilience of our club. While other clubs postponed meetings, we continued to offer members the option to attend in person or via Zoom for club and officer meetings as well as SIGs. Net Night at the Club site along with Tech Classes, VEC Sessions, Field Day, VOM/DVM Training, Radio Cruise-In, Open House & BBQ, Ham Radio Boot Camp, Antenna Project, Makers Fair, and Center of Hope Fundraiser all moved forward as planned. Hats off to all those who participated and planned these events!

I'm optimistic PCARS and its members will enjoy another year of fun activities. I know there will be opportunities for members to participate beyond club meetings or the weekly net and I hope to see members volunteer their help. After all, it's the members who make our club great!

Merry Christmas & 73

Schedule of Events



We plan to add to the schedule as we bring back more in-person events.

*Look for announcements in QST emails, on the website,
on our weekly net, and in future newsletters.*

*If you're not feeling well, please stay home and join us by Zoom if instead. We'll
continue to offer Zoom as an option wherever it makes sense to do so.*

December 4th - VE Testing at the club site - 10 am

December 4th - FYAO at the park in Kent - see flier

December 6th - PCARS Board Meeting at the club site - 7pm

**December 13th - PCARS December Meeting Christmas Dinner at the Kent
American Legion - 7 pm - Tickets REQUIRED for dinner**

First Tuesday - **Digital** - Moderator: Rick, K8CAV

Second Tuesday - **Portable Ops** - Moderator: John, WG8X

Third Tuesday - **Antenna** - Moderator: Tony, WA8AR

Fourth Tuesday - **DX & Contest** - Moderator: Chuck, W8PT

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



Christmas Dinner Meeting

Tom, WB8LCD

The PCARS meeting on Monday, December 13, 2021 will be our traditional PCARS Christmas dinner meeting. This is open to all PCARS members and their families.

The dinner will again be served by the Little City Grill of Kent, OH at a cost of \$20 per person. You will have a small dinner salad, your choice of chicken or a strip steak, mashed potatoes with gravy, and green beans. Dinners will be served with rolls and coffee. Other beverages or water will be available from the American Legion canteen.

I'll need you to send your reservation to me, Tom Sly, WB8LCD, either by email, tomsly29@gmail.com or snail mail to 1480 Lake Martin Dr., Kent, OH 44240. You can make your payment via PAYPAL on the PCARS website, (<https://www.portcars.org/wp/pcars-christmas-party-2021/>) or by check payable to PCARS. If you



send your reservation to me via email, please include a copy of your PAYPAL receipt. If you send me your reservation via the USPS, please send me either a copy of your PAYPAL receipt, or your check. Just like the PCARS weekly net, all reservations will go through the WB8LCD reservation confirmation system. **I would like to have your reservation with payment no later than Friday, December 3rd.** More information and a reservation request form are available on the PCARS website.

PCARS gift exchange after dinner!

Please bring a ten-dollar gift and mark it for a HAM or a NON-HAM. (Non-ham gifts should be gender-neutral.) If you are bringing children, please bring a special gift for your own children, and mark the child's name on the gift so we can make sure it gets to him or her.

There will be a table with two baskets, one labeled "HAM" and the other labeled "NON-HAM" with slips of paper in the front of them. Put your gift on the table, pick up a slip of paper, write your callsign and deposit it in the "HAM" basket if you brought a ham gift, or, write your name on it and deposit it in the "NON-HAM" basket if you brought a non-ham gift.

PLEASE: do not deposit a slip if you did not bring a gift for the EXCHANGE!



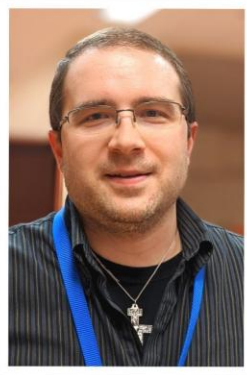
Congratulations to the PCARS 2022 Officers

The annual election of officers for PCARS was held at the November PCARS in-person and Zoom meeting. All of the winning candidates will take over as our elected officials on January 1, 2022. Nick, AC8QG was re-elected President. Mike, N8WCP was re-elected as Vice President. Greg, KA8TOA was elected as Treasurer, John, WG8X goes to 1-Year Trustee, Tom, KB8UUZ was elected 2 Year Trustee and Chuck, W8PT was elected 3-Year Trustee.

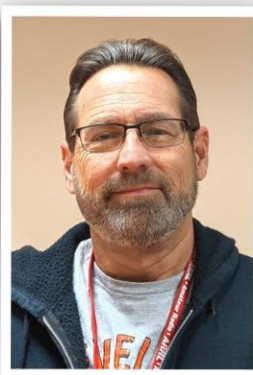
Tom, WB8LCD is still the Immediate Past President.

These officers are also the Board of Directors for PCARS.

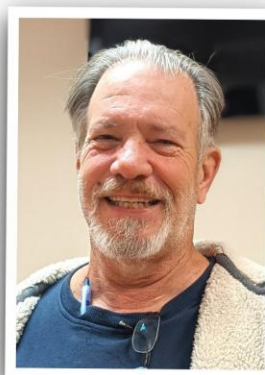
CONGRATULATIONS



**President
Nick AC8QG**



**Vice President
Mike N8WCP**



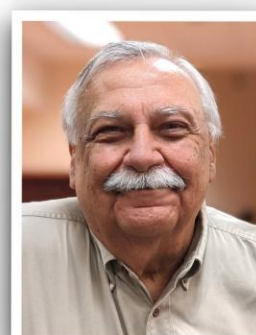
**Treasurer
Greg KA8TOA**



**1 Year Trustee
John WG8X**



**2 Year Trustee
Tom KB8UUZ**



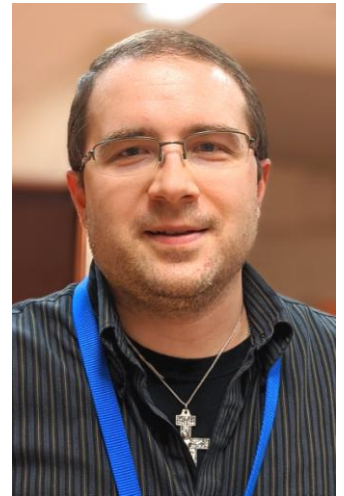
**3 Year Trustee
Chuck W8PT**



**Past President
Tom WB8LCD**

Center of Hope Fund Drive - OUTSTANDING

Nick, AC8QG
PCARS President



I want to **Thank You All** for your support of PCARS in our annual fund raiser for the Center of Hope (a part of the **Family & Community Services** here in Ravenna).

What an **OUTSTANDING** job we all did! Every PCARS member should be proud to be affiliated with a club (PCARS) and an organization who serves our community in this way. I can say with certainty that our contribution was greatly appreciated!



Mark from F&CS Ravenna, N8WCP, AC8QG, KE8EGF
(Actual photo of presentation will be in the Jan. newsletter)

Our contribution (as of Nov 22nd) - **\$10,471.76** - was our **largest ever**. I'm only guessing here, but among local organizations, we are probably one of the largest (if not THE largest) contribution they received. I'm proud to say that over the past 16 years that PCARS has existed, our total contribution to support our community in this way is over **\$67,000**.

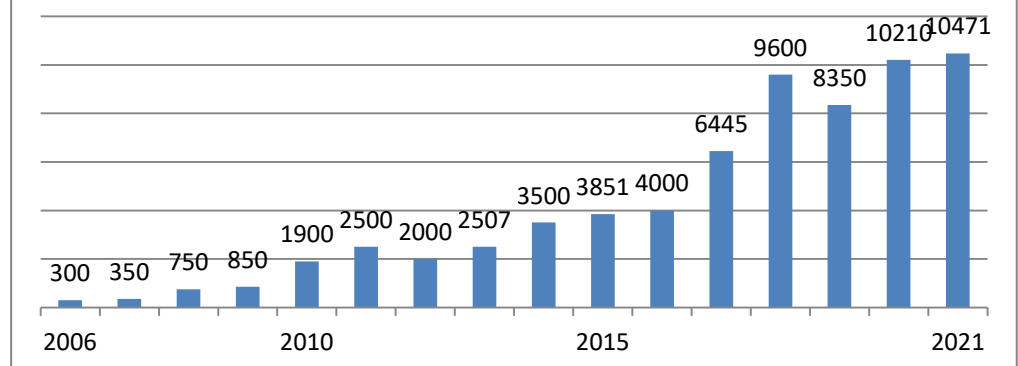
Well Done PCARS! Let this part of our legacy be something that defines us in the future as an intentional part of our mission.



Center of Hope



PCARS Donations 2006-2021 to Center of Hope



Center of Hope Fund Drive - Prize Drawings

A big **Thank You** goes out to all the companies and people that donated money and the prizes to help raise funds for the Center of Hope. There were a lot of really nice prizes awarded during the annual Center of Hope donation fund raising meeting that was on November 8th.



Center of Hope Donation Prizes

Nov. 8, 2021

From the ARRL Ohio Section Manager



Tom, WB8LCD
ARRL Ohio Section Manager



It's been another crazy time for me! I never did get that new ARRL receiver kit built, but I'll be doing that and reporting on it soon. Add to that the SSB Sweepstakes. As you can see, I'm not a "die-hard" contester, but that is a "Clean Sweep" mug I'm drinking my coffee from. Doubtful I'm going to qualify for one again this year, but I am having fun! And that's an important part of my enjoyment of the hobby.



I've always said that Amateur Radio is the King of all Hobbies! One of the things that makes it so much more interesting than most hobbies is that it's actually a whole bunch of different hobbies within a hobby. It's possible that you and I can both be avid hams, and never run across each other on the air. If I'm an avid 6-meter operator and you like to work HF, our paths will probably not cross – at least on air. But, since I belong to several clubs in which I attend and participate in we very well could meet each other that way. It's also possible we could run into each other at a Hamfest, or some other type of convention. My point is, get involved, on the air and with all of the other activities the Hobby has to offer. I promise, you'll meet some fascinating people and make some really good friends.

So, let's say you're a new ham, just got your Tech license and you want something just a little more than talking to the locals on repeater. Let me make some suggestions. I'm going to start with Fox-Hunting, because you can actually do that without even being licensed!

Anyone can get started in Fox-Hunting. The equipment to get started can be very simple and inexpensive. Many local clubs sponsor local hunts so that you should be able to find one not too far away. There are also regional, national and international organizations that sponsor Hunts and other activities related to hunting. There are "foot hunts" and "car hunts". Most occur on the VHF/UHF frequencies, but some also occur on HF. You can participate in all because anyone can listen! There are projects you can build to satisfy your desire to make some of your own equipment. I would encourage more clubs to get involved in sponsoring hunts, especially as an "introductory" activity for kids.

Did you know that not all activity on VHF/UHF frequencies is FM? Most "weak signal" work, and DX-ing is done using SSB. Ham Radio has a whole bunch of satellites in space using both FM and SSB. Again, a satellite station can be as simple and inexpensive, or as complex and costly as you'd like to make it. Even as a Tech class licensee, you've got full operating privileges on 6 meters.

As a Tech class license, you've also got a slice of the 10 meter band from 28.3 to 28.5 Mhz where you can operate SSB. A 10 meter antenna can be pretty easy to make, and it's small. If you don't want to go all-out on an HF rig, there are some good, used, 10 meter only radios out there that are pretty inexpensive. The nice thing is, that as we are starting the climb up solar cycle 25, 10 meters will have lots of good openings for some fun DX Q's! Want a chance to really get in on the excitement of HF radio? You got it. All you have to do is learn the morse code. It's not even that difficult! Once you learn, you can get on the air and there are plenty of folks who will slow down to give you a chance to make some Q's and increase your proficiency and speed. You have privileges on 15 meters, 40 meters and 80 meters.

After I let my novice license expire in 1969, I knew I had made a mistake. It took me about 6 months to go back and get my technician class license. I held that license for almost 10 years (I graduated from college, got married, started a business, started a family all in that same time) and I had a lot of fun with amateur radio. At the time, all I needed to move from technician to general class was to pass the 13wpm morse code test. Me and a friend spent about a year, running CW

on either 6, 10, or 15 meters about 3-5 times a week, until I had my speed up at about 20wpm. In August of 1979 I drove to Detroit where I breezed by the 13wpm test and was upgraded to general. I was an avid cw operator for about the next few years. I'd have to work at it to get my speed back up there. That's on my bucket list. The General class license is really the most "Bang for the Buck" as ham licenses go. I was happy with that until 2006 when we started the PCARS club. I was listed as member number 1, and was also the first president of the club. As I looked at the club roster that year, I noticed that the next 5 members all had the Extra Class license. That's when I was motivated to study for and get the Extra class license.

I will still argue that the license to have is the General class license. I want you to have Fun as a Technician class Amateur Radio operator. But, I also want to see you move up to General. In the grand scheme of things, moving from Tech to General is only a little bit of work and is well within the reach of most people. Going from Tech to General opens up huge amounts of radio spectrum to you with which to have more fun! Getting the Extra class license is another story. It's much more involved with radio / electronics theory, and you only get a small slice of additional spectrum allocation for all of your work. You WILL need to be motivated! Is it worth it? Of course it is.

As I sign off and I want to wish you all a Joyful and Peaceful Thanksgiving with family and friends.

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: **Paul, KE8EGF** or e-mail him at: phyland@neo.rr.com

Happy Birthday PCARS Members

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

KE8LWM	Holly
N8AMY	Amy
KB8UHN	John
K5JMS	John
K8IV	Ed

KA8TOA	Greg
KB8AMZ	Terry
N8XTH	Deron
Ellen	Kurta



PCARS VE Testing Information & News

Tom, KB8UUZ
PCARS VE Team Liaison



GOOD NEWS – VE testing has resumed at the PCARS club site in Ravenna. Due to the COVID 19 concerns, PCARS had shut down in-person VE testing to ensure the safety of our VE team members and the applicants that wanted to take a test for their new amateur radio license or to upgrade.

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.

2021 - December 4th
2022 - February 5th, April 2nd, June 4th, August 6th, October 1st, December 3rd

WALK-INS will be accepted.

- **You must have your FRN prior to taking an exam** - No SSNs will be used on the Form 605 anymore.
- 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 still encouraged.
- No food or snacks allowed.
- \$15.00 Fee Payment will only be by check or exact change. We cannot make change
- If paying by check, make check out to: "ARRL-VEC" The VE Fee is \$15.00
- 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).
 - **FCC is requiring you have your e-mail address on the Form 605.**
 - **If you are taking a Technician test you must have your FRN number** (you can apply for an FRN on the FCC website). For hams having a license, your FRN is printed on your license.
 - **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/core/>

Social Security Numbers are ***NO LONGER ACCEPTED*** at Exam Sessions

Amateur candidates who already have an FCC license, whether for amateur radio or in another service, already have an FRN and can use the same number - it is printed on your current license. All prospective new FCC licensees, however, will be required to obtain an FRN **before** the examination and provide that number to the volunteer examiners on the Form 605 license application. An FCC instructional video (<https://www.fcc.gov/rofrn>) provides step-by-step instructions on how to obtain an FRN through the FCC's CORES system. The FRN is required for all new applicants to take an amateur exam and is used afterward by the applicant to download the license document from the FCC Universal Licensing System (ULS) (<https://www.fcc.gov/wireless/universal-licensing-system>), upgrade the license, apply for a vanity call sign, and to submit administrative updates (such as address and email changes) and renewal applications.



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.

New FCC Application Fees Information

08/16/2021

The schedule of FCC amateur radio application fees likely will not go into effect before **2022**. FCC staff confirmed during a recent virtual meeting with Volunteer Examiner Coordinators (VECs) that the agency is still working on the necessary changes to the Universal Licensing System (ULS) software and other processes and procedures that must be in place before it starts collecting fees from amateur applicants. Earlier this year, the FCC said it would not start collecting fees from amateur applicants before this summer. The new estimate is that the fees won't go into effect until early next year. Once it's effective, the \$35 application fee will apply to new, modification (upgrade and sequential call sign change), renewal, and vanity call sign applications. All fees will be per application. Administrative update applications, such as those to change a licensee's name, mailing, or email address, will be exempt from fees. ARRL VEC manager Maria Somma, AB1FM, said Volunteer Examiner (VE) teams will not face the burden of collecting the \$35 fee. "Once the FCC application fee takes effect, new and upgrade applicants will pay the exam session fee to the VE team as usual, but they'll pay the \$35 application fee directly to the FCC using the **FCC Pay Fees** system," she explained. When the FCC receives the examination information from the VEC, it will email a link with payment instructions to each successful candidate who then will have 10 days from the date of the email 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. Licensees also will be able to view, download, and print official license copies by logging into their FCC ULS account. The FCC no longer provides printed licenses. Licensees can log into the **ULS** with their 10-digit FRN (FCC Registration Number) and password at any time to view and manage their license and application, **print their license**, and update anything in their FCC license record, including adding an email address.

FEE SCHEDULE INDIVIDUALS - \$35 FEE: New, modification (upgrade and sequential call sign change), renewal, and vanity call sign applications. All fees will be per application. - NO FEE: Administrative updates, such as a change of name, mailing or email address, or license cancellation. **AMATEUR RADIO CLUBS** - \$35 FEE: New, renewal, trustee change, and vanity call sign applications. All fees will be per application. - NO FEE: Administrative updates, such as a change of name, mailing or email address, or license cancellation.

ARRL Volunteer Examiner Coordinator ([VEC](#)) Manager Maria Somma, AB1FM, said VECs and Volunteer Examiner (VE) teams will **not** have to collect the \$35 fee at exam sessions. **Once the FCC application fee does take effect, new and upgrade applicants will pay the regular \$15 exam session fee to the VE team as usual, and pay the new \$35 application fee directly to the FCC via the [Fee Filer System](#) or [License Manager System](#).** The new CSCE form now has information about fee payment,



Skywarn Recognition Day 2021

SKYWARN™ Recognition Day was developed in 1999 by the National Weather Service and the American Radio Relay League. It celebrates the contributions that SKYWARN™ volunteers make to the NWS mission, the protection of life and property. Amateur radio operators comprise a large percentage of the SKYWARN™ volunteers across the country. The Amateur radio operators also provide vital communication between the NWS and emergency management if normal communications become inoperative.



All SKYWARN™ spotters provide critical weather information before, during and after adverse weather strikes. This includes reports of rain and snow, ice and wind, storms and tornadoes, flooding and fire. This is our 24 hours to recognize all of the SKYWARN™ spotters serving our nation!

SKYWARN™ Recognition Day Operating Instructions

1. Object SKYWARN™ Recognition Day serves to celebrate the contributions to public safety made by amateur radio operators Skywarn Spotters during threatening weather.
Amateur stations to exchange QSO information with as many National Weather Service Stations as possible on 80, 40, 20, 15, 10, 6, and 2 meter bands plus the 70 centimeter band. Contacts via repeaters are permitted.
Non-Amateur Radio Spotters to exchange weather information as often as possible via Social Media with NWS Offices.
2. Date NWS stations may operate at any time during **December 4, 2021 from 0000 - 2400 UTC.**
3. Exchange: Call sign, signal report, QTH, and a one or two word description of the weather occurring at your site ("sunny", "partly cloudy", "windy", etc.).
4. Modes: NWS stations will work various modes including SSB, FM, AM, RTTY, CW, and PSK31. While working digital modes, special event stations will append "NWS" to their call sign (e.g., N0A/NWS). NWS offices may also participate via Social Media platforms throughout the 24 hour period.
5. Station Control Operator: It is suggested that during SRD operations a non-NWS volunteer should serve as a control operator for your station.
6. Event and QSL Information: The National Weather Service will provide event information via the internet. Event certificates will once again be electronic and printable from the main website after the conclusion of SRD.



Log submission deadline is 1/31/2022 - To learn more, [visit the SRD website](#).



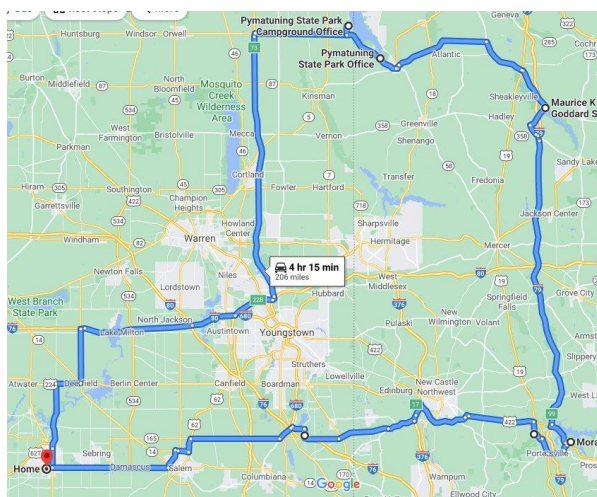
Black Friday? Not What You'd Expect !

John, WG8X



So, for years, Black Friday consisted of doing my best to avoid the crowds at the stores. Don't get me wrong, I love a good bargain, but getting 50% off of a widget by standing in line for hours no longer excites me. For the last few years, I've been doing a #optoutside Black Friday Rove. In 2019, I went to Alum Creek, and Delaware State Parks, then last year, Forked Run SP in Southern Ohio was the object of my Black Friday Rove.

But, this year, I was at a loss to choose a destination that I'd not already been to. So for the first time, I ventured into Pennsylvania for Black Friday. Here's what happened.



The day started out at 5:30. I took the battery off of charge, set up the gear in the truck, packed a lunch, and got on the road around 6:45. The first stop was to be Pymatuning SP; first on the Ohio side, then Pennsylvania. As I drove north, the snow began getting heavier, until there was a bit over an inch on the ground at the lake, and the snow plows were out. The lake effect snow continued to come down, and forced me to cut short the activation on the PA side of the lake due to the wind.

Leaving Pymatuning, I headed south to Maurice K. Goddard State Park. Then on to Moraine, and then finally McConnell's Mill SP. These last two are what we call a "two-fer". The North Country National Scenic trail runs through both of those parks, so I get to hand out two contacts to the hunters instead of one. Of course, I get credit for two activations, so that makes me happy!

By the way, according to northcountrytrail.org, "The North Country National Scenic Trail is the longest in the National Trails System, stretching 4,700 miles across eight states from North Dakota to Vermont". That's right, longer than either the Appalachian, or the Pacific Crest Trails. In fact, both of those trails combined are longer than the North Country trail by only 140 miles!

The North Country trail runs along a good portion (but not all) of the Buckeye trail in Ohio. The closest it comes to our area is where it turns east around Zoar, then winds its way NE towards Minerva & Lisbon. It then runs east, and right through the middle of the Beaver Creek State Park campground.



So, here's the numbers from today's rove: The Black Friday Rove took about 9 hours, and covered 222.6 miles. According to my battery meter, 12.6AH was consumed by the FT-891 (running about 40W on CW & SSB). 170 contacts made it into my log. Roughly 34% of the contacts were on CW; the rest on SSB. 2M FM was attempted, but wasn't successful.



I did a few other activations in the last month, but I'll include that in next month's article. The big news of the week is that the QCX Mini has arrived, and works great! I'll have more about that next month as well.

So get out there and have some fun! Don't forget that FYAO is coming up on Saturday. What a great opportunity to get your feet wet on portable operating!



OSPOTA 2021 Certificates



Tom, KB8UUZ
OSPOTA Chairman



At the November PCARS meeting some of the winning OSPOTA certificates for PCARS members were presented. The winners present were:

Team **K8IV** that operated Multi-Op, Multi-Radio Low Power from Punderson Ohio State Park. They worked hard and took **First Place** and had the overall high score of **30,150 points**. Team members included **K8IV, K3GP, KD8DFL, N8AMY, N8GIE** and **WB8LCD**.

K3GP, KD8DFL, K8IV, WB8LCD, N8AMY, N8GIE



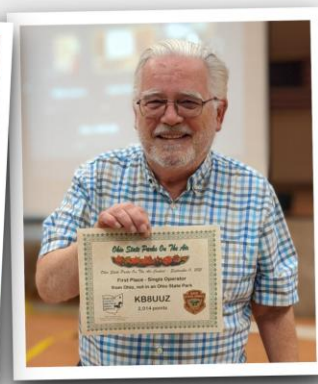
Team **AD8FQ** operated from Grand Lake St. Marys Ohio State Park took **Third Place** in Multi-Op Single-Radio Low Power getting **2,622 points**. Team members included: **AD8FQ, KE8LWP, KE8LWO** and **AC8QG**.



AD8FQ, KD8LWP, KD8LWO
(AC8QG was taking the photo..)



KD8MQ - Rover



KB8UUZ

Rover entry **KD8MQ/R** operated from Malabar Farm, Mohican and Mt. Gilead Ohio State Parks and obtained **Second Place Rover** with **2,373 points**.

Operating from home, **KB8UUZ** took **First Place** for In Ohio-Not in a Park with **2,014 points**.

Complete OSPOTA 2021 results were published in the November newsletter.



Swap-N-Shop

FOR SALE: Camel back VIZ key \$100.00 **Cameleon Magnetic Loop CHA P loop 2** \$125.00
Signal Electric key \$50.00 **LDG-AT-200ProII** auto tuner \$165.00

Contact: Dave, WV8P by phone: 440-799-3202 leave message [02/02/22]

WANTED: 10 foot x 2 inch outside diameter mast pipe. It must be 2 inch OUTSIDE diameter.

Contact: Joe, K8HTB email: k8htb@cfsassociates.com [02/02/22]

WANTED: 2M/70CM Mobile Transceiver. No DSTAR, System Fusion, or DMR Capability please. Simple and inexpensive.

Contact: Bob, N8QE email: rhajdak@aol.com [02/02/22]

FOR SALE: Ten Tec 556, QRP Radio 5 Watts. 40,20,15,10 M modules. \$200.00 **Ten Tec 40-20 M - 3 Watts,** radio is in a security case. \$125.00 **Icom 703** QRP radio. radio has a 500 Hz filter. also the Icom 703 back pack. Works on all bands. \$450.00

Contact: Dave, WV8P email: wv8p@roadrunner.com [01/02/22]

FOR SALE: Yaesu FT-817ND QRP HF through UHF all-mode transceiver. Original owner. Includes: **FT-817ND** Transceiver; **MH-31** Microphone; Power cable with Anderson Powerpole connector; **PA-48B** AC adapter; **FNB-85** Ni-MH battery (installed); 8 cell battery box; Factory manual and spare printed manual; Carrying case; carry strap; original factory box; RT Systems **ADMS-4AU** programming software and **USB-62B** programming cable. \$400.00

Contact: Rick, K8CAV email: k8cav.coms@gmail.com [01/02/22]

WANTED: Icom IC-9100 or IC-910 (and maybe an **IC-9700**). Must be clean looking and working. Want to use them for FT8 and maybe satellite work. Also looking for a **2 meter Amplifier** (40 to 50 watts in, and 160 watts or more out).

Contact: Richard, KA8OAT - phone 330-506-7068 [02/02/22]

FOR SALE: Rick Tenan WA8TSI - SK Estate Items for sale. Complete Drake "B-Line" station in museum quality condition: R4B Receiver, T4XB Transmitter with custom cover, MS-4 Speaker and Cabinet with custom cover, MN-2000 Tuner with custom cover, AC-4 Power Supply and connecting cables, Drake W4 wattmeter, Shure 444 Microphone, Items were serviced and brought up to top operating condition by Jeff Covelli. **\$1200 for the complete set. Separate items are not for sale.** Most manuals included. **Yaesu FT-990** HF Transceiver in excellent condition. MD-1 mic and manual included. \$750 **Kenwood TS-820** HF Transceiver in excellent condition with manual. VFO-820, SP-820 and MC-50 mic and connecting cables included. \$ 650 **Heathkit SB-1400** HF transceiver and SBA-1400 speaker/ps in mint condition. \$300 **Heathkit HX-30** 6 meter transmitter and HA-20 Amplifier in average condition. Includes Comair LM-6N2C 6 and 2 meter manual tuner in fair condition. \$450. **Heathkit HO-10** Monitor Scope in good condition. \$ 50. **Astron RS-50M** DC pwr supply in excellent condition. \$250. **Radio Shack 22-510** 25a switching power supply. \$75. **Allied-Radio Shack AX-190** HF ham band receiver in very good condition. \$150 **Siltronics (SWAN) FS-301** SWR meter with 1000w and 20w scales in good condition. \$50 **Radio Shack Pro-2044** Scanner. \$35 **Royce 2-100** Field Strength & SWR meter. \$15 **Midland 23-135B** Field Strength meter. \$10 **Lafayette Telsat SSB-75** SSB and AM transceiver. \$50 **Vibroplex 40135** Iambic key in "like-new" condition. \$75 **Radio Shack HTA20** 2 meter mobile transmit amp. \$60. **SGC SG-239** HF Smartuner. \$125 **DSI-5500** 50hz-512mhz frequency counter. \$60 **MFJ-260C** dummy load. \$45 **MFJ-1702** 2 position coax switch. \$35 **MFJ-945D** Mobile tuner. \$90 **MFJ-945E** Mobile tuner. \$125 **MFJ-949E** Deluxe Versatuner II. \$125 **MFJ4225MV** 25A power supply. \$50 **"On the Air"** sign Large backlit. \$50 **RCI-5054** 6m SSB transceiver. \$190 **J-38 style straight key** mounted to heavy base. \$45 **CSH-A4S Beam** with optional A-744 driven element for 40 meters. It may need some adjustments. \$75. **Diamond X200** vertical for 2M and 70CM. \$100 **Ham IV rotator and controller.** \$450.

Contact: Dave Fairbanks, N8NB at 330-501-5031

Leave a message if I am not available. All proceeds go to Pam Tenan. [01/02/22]

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: [02/02/22] indicates the ad will run until February 2, 2022.



PCARS *Custom Coffee Cups* - Limited Edition- Almost Gone

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

Portage County Amateur Radio Service



2018 Hamvention® Club of the Year

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 - Paul, KE8EGF**. Paul 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** and they are for sale at \$5.00 each.



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

WHAT A GREAT CHRISTMAS PRESENT

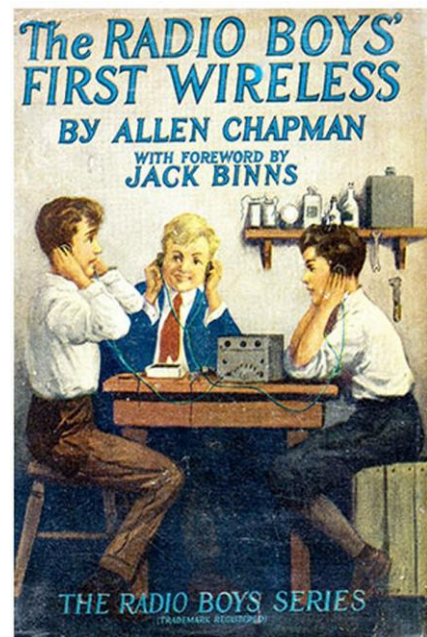
The Radio Boys - 1922

1922 wireless book available for Free Download

The 1922 book '**The Radio Boys' First Wireless**' by Allen Chapman has a foreword by **Jack Binns** who was the Marconi Wireless Operator on the RMS Republic

The RMS Republic was rammed by the Italian Liner SS Florida and sank January 23, 1909.

It was the first ship in history to issue a CQD distress signal, the U.S. Revenue Cutter Service's Gresham and the White Star liner Baltic responded to the distress call sent by Jack Binns, saving many lives.



Download the book from <https://www.fulltextarchive.com/pdfs/The-Radio-Boys-First-Wireless.pdf>

2009 Jack Binns commemorative event in Chelmsford, Essex <http://www.g0mwt.org.uk/sandfordmill/jack-binns09fold/jb09.htm>



PCARS Thursday 2 Meter Nets

Greg, KA8TOA
Net Control Coordinator



Thank you all for helping with this! Anytime you are unable to take the net, please give me as much advance warning as possible! **Check-in using the receiver located in Sugar Bush Knolls ~ 146.895 with a PL tone of 118.8. We also use EchoLink node K8BF-L**

The net control dates will be posted on the Club website. An email will be sent out after the posting. As usual if there are issues please contact me via the roadrunner email address.
Thanks to all of you for helping out.

73 - Greg, KA8TOA - Net Control Coordinator

December	
2	N8QE
9	N8WCP
16	WB8LCD
23	KA8TOA
30	KE8BWA

January	
6	
13	
20	
27	

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

I would like to thank all the net operators for their help during the year. This is a great club with a lot of great people. I have been so lucky to get great help when needed and great knowledge when needed. There is so much help out there if you need it. I want to wish everyone **Happy Holidays** for you and your families. This shows by the attendance at meetings and the participation on the nets along with other club activities. Please ask if you need help with anything or volunteer for something. I have made a lot of good friends over the years and some have passed and they are missed.

Remember there are many facets in Amateur radio and one of the many is emergency communications . We could use some volunteers in the Em Comm unit, so go talk to Rick, K8CAV for further info.

The following are the stats for the 3rd quarter of this year, for now 73 and I hope to hear you on the air.

For the 3rd Qtr of 2021 July, Aug and Sept a total 340 check ins for 14 weeks. 3 month weekly average of 24 check ins. July - 5 wks 24, Aug - 4 wks 26, Sept - 5 wks 23. 2021 2nd qtr 301 total check ins for 13 wks and 23 average weekly for each net. 2020 3rd qtr 3 month weekly average of 24 check ins.

**At the November meeting I was honored to present the
"Ten Consecutive Net Check-In Award" certificates to
Mike, N8WCP and Karen, WD8BIW.**



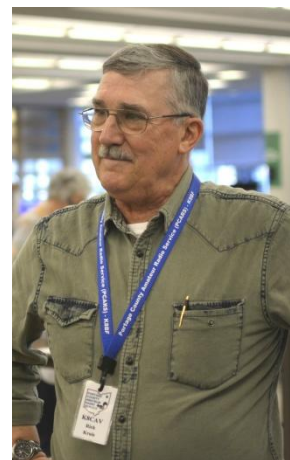
Flex Net

Rick, K8CAV

Flex Net Coordinator

PCARS will hold its monthly Flex Net on Wednesday December 8th at 8:00 PM. This month we'll be meeting on 28.380 MHz +/- QRM, using USB phone.

This is a fun way to check out local 'ground wave' propagation, and to make some Q's for the PCARS A to Z net. I hope to hear you then!



Special Event Station W8A - December 5th

Tom, WB8LCD

Brew Master

Join us on **December 4th & 5th, 2020** for the special event celebrating the passage of the 21st Amendment to the Constitution of the United States of America. We'll be on the air starting Saturday December 4th at 7 pm and running until midnight on Sunday Dec 5th from Kent, Ohio on 20, 40 and 80 meters.



Ohio was one of the last 3 states to ratify the 21st Amendment on December 5th, 1933. The others were Pennsylvania and Utah. Utah was the 36th state to ratify the Amendment, giving it the 3/4 majority of states approval necessary to become law. Ohio and Pennsylvania had ratified the amendment earlier in the day, Utah pushed to get it done at 3:32 PM (local) to beat the state of Maine to be the state that secured the passage. It was the first time in the history of the US that an Amendment to the Constitution had been repealed, and it was not done by congress, it was done by "We the People". Once all of the last 3 states needed passed the 21st Amendment, the sale of Alcoholic Beverage in the US became legal again – immediately! The end of Prohibition was immediately turned into one Big Party! So grab a glass of your favorite beverage, give us a shout on the air and join the party. Please, be responsible in your revelry.



Celebrating the end of prohibition

73, and we hope to work you!

Please QSL direct to: Tom Sly - WB8LCD, 1480 Lake Martin Dr. - Kent, OH 44240
SASE would be appreciated, but all QSLs will be answered.



Field Day 2021 - Results

Tony, WA8AR
Field Day Chairman

The final scores for Field Day 2021 have been published and **PCARS finished #2 in the nation for operating class 4A.**



This also put us as #1 in our division and #1 in the State of Ohio.

Our stations made a total of 3,548 QSO's for a point score of 12,046 (including bonus points)! This was accomplished despite lingering handicaps from the effects of COVID 19. Our members pulled together to deliver an outstanding performance.

4A	QSOs	Participants	Total Score	Section
Huntsville ARC - 1st place	5229	85	18138	AL
PCARS - 2nd place	3548	48	12046	OH

Club Aggregate PCARS - 14,920 4 entries

We will dig into the statistics and provide a report comparing 2021 to previous field Days, to see where we can refine our operation to advance PCARS to our goal of being #1 in the US. But for now, **I just want to congratulate all the PCARS members who contributed in any way to our 2021 Field Day success.**

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!!



Groups Find or Create a Group <https://groups.io/g/PCARS> Help Log In

Home Messages Hashtags

PCARS K8BF
The Club that puts the FUN in Ham Radio!

PCARS@groups.io

Group Description
This is the discussion group of The Portage County Amateur Radio Service, Inc. This site is for the members, by the members of PCARS.

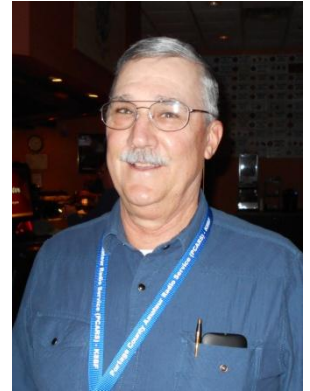
Group Information
59 Members
1 Topic, Last Post: Feb 21
Started on Feb 21
Feed

Join This Group or Log In If You Are Already A Member

Group Settings
All subscribers can post to the group.
Posts to this group require approval from the moderators.
Posts from new users require approval from the moderators.
Messages are set to reply to group.
Subscriptions to this group do not require approval from the moderators.
Archives are visible to anyone.
Wiki is visible to subscribers only.
Members can edit their posts.
Members can set their subscriptions to no email.

News from the Portage County Coms Unit

Rick, K8CAV
Portage County Coms Unit



One of the reasons for the existence of amateur radio specifically addressed in the FCC's Part 97 is emergency communications. Parts 97.1 (a) states, *"Recognition and enhancement of the value of the amateur service to the public as a voluntary noncommercial communication service, particularly with respect to providing emergency communications"*. Note the emphasis on emergency communications. Throughout the history of amateur radio, amateur radio operators have provide untold hours of support to their communities during times of emergency or disaster. Using modes that range from the most basic CW to high tech internet email by radio, amateur radio operators can effectively supplement communications infrastructure that is damaged, destroyed, or overwhelmed during crisis.

In days past, amateur radio operators could become involved in supporting emergencies on an ad hoc basis, with little to no formal training or group affiliation, but the events of 911 have changed that. Analysis of the emergency response to 911, including communications failures during that incident, have lead to the adoption by all first responding agencies, of the National Incident Management System (NIMS), and the Incident Command System (ICS) for managing incidents and events. This has lead to the requirement that all groups and organizations, whether governmental or non-governmental, be trained in the principles of Incident Management before being allowed to participate with first response agencies during emergencies. Amateur radio operators are not exempt from this requirement, and so must be willing to train and become proficient in the ICS along with operational and technical expertise in radio communications. In today's environment, our usefulness as radio communicators must go beyond amateur radio and extend to being able to effectively use public safety radio systems in order to provide value to the organizations we would support.

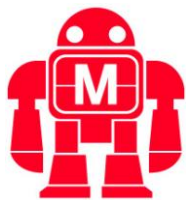
For almost all amateur radio operators today, there are two ways of becoming involved in emergency communications. Those are the Amateur Radio Emergency Service (ARES®), and the Radio Amateur Civil Emergency Service (RACES).

ARES® is organized under the auspices of the ARRL, and is administered primarily at the Section level. The Section Emergency Coordinator (SEC) is responsible for the overall plan for emergency communications at the section level, and for appointing District and County Emergency Coordinators, who plan and execute at the local level. Here in Ohio, the SEC has established three levels of ARES® membership, with attending educational requirements. Level 1 has no training requirements but restricts participation to community support events such as races and others. Level 2 has specific ICS and ARRL course requirements, which are the gateway to allowing participation in incidents and events with EMA's and other response organizations, through local ARES® groups. Level 3 has additional ICS and ARRL course requirements, and is a prerequisite for participating in ARES leadership positions in the Ohio section.

RACES is authorized under FCC rule 97.407 and is a mechanism whereby any Civil Defense organization can establish a communications unit using amateur radio. These are typically established by a County EMA to assist with its emergency communications needs. The only real downside to RACES is that the FCC puts restrictions on the number of hours for training and exercises, so most RACES groups establish a separate club that allows more extensive training and exercise without running afoul of FCC rules and regulations. Here in Portage County, RACES has been established by the Director of the Portage County Office of Homeland Security/Emergency Management (PC OHS/EM). Members of RACES are also a sworn members of the PC OHS/EM Communications Unit (Coms Unit). The Coms Unit provides communications assistance for County incidents and events, and is also trained to provide damage assessment using the Orion app. They train regularly on bi-weekly radio nets, monthly meetings, and periodic drills and exercises.

I encourage all members of PCARS to consider being involved in emergency communications, whether that participation is through ARES or with the PC OHS/EM Coms Unit. Not only does it fulfill the intent of the FCC rules and regulations, it is a way for us, as amateur radio operators, to give back to our communities. For information on local ARES® groups, contact the Ohio SEC Stan Broadway N8BHL, at broadways@standi.com. For information about participating in the Coms Unit here in Portage County, contact Rick Kruis K8CAV at k8cav.coms@gmail.com.

Maker Faire - Akron Library



Jim, AC8NT

Ham Radio at the Akron Library Maker Event

For three years PCARS has taken part in Akron's Main Library Maker Event. Each year we have had fun making friends with young and old alike and introducing them to our great hobby and sport. Each year we have also tried to bring something new to the event. This year was no different.

We have always had a great team representing PCARS. This year we had Agnes KE8LWP, Ben AD8FQ, Mike KB8TUY, Rick K8CAV, JC KC8JC, and Nick AC8QG completing the team. We displayed the system used to capture signals from hydrogen atoms in space, showed off fox hunting, listened to aircraft passing over,



had a software defined radio listening to signals (which didn't pick up anything in the library) and most important had a fully functioning QRP ham radio station.

The Akron library is a Faraday room. Almost nothing RF gets in or out. This makes demonstrating radio a bit of a challenge. We wanted to demonstrate ham radio by making contacts, not just talking about it. This was a bit of a challenge. We received permission to place a simple antenna on the roof of the

library. I mounted my Super Antenna on a speaker stand and tuned it for 20 meters. We setup the antenna on the roof and ran coax from the roof down the side of the building three stories and in through a couple of fire doors to the exhibit area. There, JC setup his Icom 705 and powered up. Yes, it worked!! We were making FT8 contacts from the exhibition space. We reached several states, Puerto Rico, and Canada. Visitors could not believe we could reach places that far away with so little power.

20:11	AF5NZ	20m	14.075	FT8	EM20	United States	Edward Saenz	Library Contact	TX	0
20:05	K8USN	20m	14.075	FT8	EM90gl	United States	Michael B Vilagi	Library Contact	FL	0
19:57	VE2LOA	20m	14.075	FT8	FM59vf	Canada	Alain Bournival	Library Contact	QC	0
19:53	W0SR	20m	14.075	FT8	EM24lv	United States	Gary L Mc Cronery	Library Contact	OK	0
19:43	K4THR	20m	14.075	FT8	EM62cm	United States	Terry M Raymond	Library Contact	AL	0
19:33	KF0FSJ	20m	14.075	FT8	DM80hp	United States	Timothy A Duncan	Library Contact	CO	0
19:23	N0ELS	20m	14.075	FT8	EM26so	United States	Donald L Welch	Library Contact	MO	0
18:59	W4VXH	20m	14.075	FT8	EL98jq	United States	Derek R Brodeur	Library Contact	TX	0
18:46	W0BCJ	20m	14.075	FT8	DM79	United States	Colin Pokowitz	Library Contact	TN	0
18:20	K5VOP	20m	14.075	FT8	EM13ne	United States	Paul R Estes	Library Contact	TX	0
18:11	W04J	20m	14.075	FT8	FK67qx	United States	Manuel Gonzalez	Library Contact	PR	0
18:09	N2JSB	20m	14.075	FT8	EM60ll	United States	Terence J Murphy	Library Contact	FL	0
18:01	NR0W	20m	14.075	FT8	EM19dd	United States	Charles B Moore	Library Contact	KS	0
17:54	K4CNY	20m	14.075	FT8	EM64pu	United States	Laura M Morgan	Library Contact	AL	0



Also, in the past we have tried to demonstrate software radios using the Raspberry Pi that could easily be setup by anyone. One of the most popular is the ADS-B receiver. This receiver picks up location and altitude from planes in the area. In the past this has never worked in the library. This year we had an outside antenna in front of the library with preamp

and successfully received information from over 50 aircraft. On the downside we had a laptop with a SDR dongle running SDR#. This picked up nothing in the library, not even noise. What a bummer! Next year we will have an outside antenna for that receiver also.



With over a year lost to the pandemic, it was great to setup and meet people. The turnout was not as big as previous years, but still great. We hope to continue our outreach activities by attending future maker events.





From the ARRL

From the ARRL Letter



Sponsors have postponed the previously announced W8S DXpedition to Swains Island. Organizers say COVID-19 restrictions and a limited number of flights in the first quarter of 2022 have made travel extremely difficult.

Also, two W8S team members are on the 3Y0J Bouvet Island DXpedition team set for November/December 2022. "Our project has certainly not been canceled but postponed to the spring of 2023.

From the ARRL Contest Update

John "Bee" Bartscherer, **N1GNV**, shared 10 contesting tips for the new contester and those with lower power stations trying to compete with the "big gun" stations. John writes:

"I'm at best a casual contester. My modest station includes a 100 W HF rig and a wire antenna up about 30 feet. Squarely in 'peanut whistle' territory, for sure, compared to many others. But I do enjoy getting on the air and working stations all over the US and the world. With just a bit of effort, you can often get your Worked All States, or DXCC Award, in a single weekend. If you're new to HF, or contesting, here are 10 tips for you.

1. **Read the contest rules.** Understand what bands you can use, what your entry category will be, and what the 'exchange' is. Simply, that's the information you will give to the other station and he/she will give to you. Note that by tradition, in a contest everyone has a 59 or 599 signal.
2. **Get with the program.** Specifically, a logging program. There are quite a few options out there. My personal choice is the [N1MM Logger](#). It's free and has an amazing array of features. It's updated regularly and has an extremely active online support community. Most current logging software will interface with just about any modern HF radio.
3. **More Butt-in-Chair Operating-Time = more contacts.** Turn off distractions like texting, Facebook, email, TV, broadcast radio, etc. Concentrate. But don't forget to take breaks. For 5 minutes every hour, get up, stretch, get some fresh air and a glass of water or a cup of coffee.
4. **Set an achievable goal.** Face it. If you're not an experienced contester with a 'big gun' station (yet!) you're not going to win. But you can certainly try to beat your score in last year's contest. Try to work DXCC in a weekend, or outscore your buddy across town.
5. **Study propagation forecasts** and get a sense of what bands are likely to be open to areas you want to work, and at what times. This will help you come up with a basic plan. But remember that band openings can occur at any time, so if you're operating in a category that allows it, keep an eye on the DX cluster because those openings can often be brief but intense.
6. **Don't waste time in pileups** early in the contest, especially if you have a 'little pistol' station like mine. Sure, give those rare ones a call or two, you may get lucky. You're competing with guys running plenty of power into big antennas. Go back to them later in the contest, after they've worked all the 'big guns.' Often enough they'll be begging for contacts and you'll work them easily.
7. **Work those mults!** Most contests include 'multipliers' in their scoring system. Basically, your score is calculated like this: You get a set number of points for each contact. Then, depending on the contest, you get an additional mult for each new country, state, county, etc. that you work. Multiply your QSO

points by the number of mults to calculate your total score. Working more mults makes a much bigger difference in your score than another contact in the same country or state. Again, read the rules for the contest you're operating in.

8. **Know those knobs!** Try to familiarize yourself with the controls on your radio. Just about every rig has an attenuator, a pre-amp, an RF gain control, and a noise blanker. Most also include an IF shift or pass-band tuning adjustment. An old trick that QRP (very low power) operators use is to turn OFF the pre-amp and turn ON some attenuation. That may seem counterintuitive, but now if a station is loud to you, the chances are much better that you're also loud to them. Let their big antennas and high power do the 'heavy lifting.' Similarly, turning down your RF gain can knock down a nearby (in frequency) high-power station so that you can work a weaker station.
9. **Use standard phonetics.** My call is N1GNV. Years ago, I enjoyed having a small vegetable garden. It was kind of fun to announce my call as 'No One Grows Nicer Vegetables' on the local repeater or among ham radio friends. In a contest, however, that only causes confusion and mistakes -- and is considered poor practice. November One Golf November Victor is what the other guy is expecting to hear. In noisy or otherwise difficult conditions, I might say "Golf November Victor, Germany Norway Victoria" but that's about it.
10. **Listen before you call.** Make sure you've got the other station's call and exchange. You can even pre-enter it in your logging software. Listen to his pattern. Does he say 'QRZ?' after each contact? You want to make sure you're transmitting when he's listening. Work him (making sure he's got YOUR call correct!), hit enter, and he's in your log. Move on to the next one.

Finally - this is a hobby. It's supposed to be FUN!! Enjoy the contest, and I hope to work you on all the bands."

=====

NEWS, PRESS RELEASES, AND GENERAL INTEREST

160-Meter Transatlantic Centenary QSO Party - 0200 to 0800 UTC, December 12, 2021

ARRL and the Radio Society of Great Britain (RSGB) are jointly sponsoring this event to celebrate the achievement of transatlantic communications by radio amateurs 100 years ago.

ARRL and RSGB will activate special event stations for 6 hours (0200 - 0800 UTC) on December 12. The RSGB will activate GB2ZE from Scotland, with a team of stations from the GMDX Group sharing operating duties. ARRL will activate W1AW. The stations will operate only on CW. If transatlantic propagation holds up, the stations may continue to operate beyond 0800 UTC. The over-the-air exchange will be your call sign and signal report.

Participants who successfully contact one or more of the stations will be able to download a commemorative certificate. The GMDX Group of Scotland will award a quaich -- a traditional Scottish drinking cup representing friendship -- to the first stations in North America and the UK to complete contacts with both W1AW and GB2ZE during the QSO Party. For more details on this event, see www.arrl.org/transatlantic.

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CQ

"Calling any station" is the general call when requesting a conversation with anyone. Like many other telegraph terms that originated on the landlines, CQ was brought over into radio and used as a general call to all ships by the Marconi Company. Other companies used "KA" until the London Convention of 1912, which adopted CQ as the international general call or "attention" signal.

But why the letters CQ? From the French, *sécurité* (which means "safety" or, as intended here, "pay attention"). The pronunciation of the first two syllables sounds like the English letters C and Q, which led to "CQ"

becoming a call to attention for all stations.

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QUOTABLES

Ward, N0AX, shared: "Here's an 1844 quote sent by postal mail from Samuel Morse to his partner, Alfred Vail, regarding telegraphy: '... there is one defect in your writing [sending] which I wish you would pay particular attention to - Make a longer space between each letter, & a still longer space between each word, The letters and words are often confounded for want of this simple attention.' Even at the beginning, nearly 180 years ago, running characters together was a problem!"

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CONVERSATION

When submitting your contest log, many contest sponsors will provide an email confirmation of your entry. It's always advisable to check your confirmation email or the contest's Logs Received page to check if your entry has been submitted, and that your entry category, club name, and location are correct. ARRL, CQ, and other contest sponsors will allow you to resubmit your log with any corrections before the log submission deadline. The most recently upload log will be used for scoring purposes. After the deadline, some contest sponsors will release "Raw Scores" that reflect the scores before any log checking is completed. If, after the deadline, you notice an error in your log submission, contact the contest sponsor to correct it before the results are tabulated and made public.

That's all for this time. I hope everyone has a wonderful Thanksgiving weekend, and until next time, we'll leave the amp on for you! Remember to send contesting related stories, book reviews, tips, techniques, press releases, errata, schematics, club information, pictures, stories, blog links, and predictions to contest-update@arrl.org 73, Paul, N1SFE

Digital Special Interest Group

Rick, K8CAV
Digital SIG Coordinator



The Digital Special Interest Group will meet on Tuesday December 7th at 7:00 PM at the club site in Ravenna. Due to a last minute commitment last month I was unable to do the planned presentation on fldigi, so this month's topic and presentation will cover fldigi. The presentation will talk about fldigi and its capabilities, how to install it, and how to use it. We'll also talk about the use of some of the NBEMS subsidiary programs used with fldigi.

As always, we'll make time for answering questions or helping out with any issues you may have regarding digital communications, so make plans to be there! I hope to see you then.



Charlie the Tuner's HF High-Lites

Chuck, W8PT
a.k.a. "Charlie the Tuner"



Greetings DXers:

Charlie the Tuner's DX High-Lites – December 2021

Hello from a very cold Parkman, Geauga County. Man, it is frigid outside. I was hoping for one or two more mild days so that I could get a few more things done outside, but my bones can't handle this cold. So it's a good time to play radio and get my rigs on the air and work some DX. In the last couple of weeks I've worked Israel, the Czech Rep., Bosnia, Eu. Russia, and the Canary Islands among several other DX stations. And I know this will surprise many of you but I did it on CW at 5 watts. Yup! I got hooked on CW and even though I make some mistakes, so far everyone has been very gracious. I seem to find that among CW ops. This was all done on either 20 or 40 meters. So I finally bit the bullet and proved to myself that you can make good DX contacts using 5 watts on CW. You have to work at it at times, but it's certainly doable and when you do get the DX, it's really satisfying. Will I now stay at 5 watts? No. But it's fun and I will be doing it more often. So let's see what we can be working in December.

Thanks to the Northern Ohio Amateur Radio Society, Northern Ohio DX Association, Ohio/Penn PacketCluster Network, the AB5K's AR Cluster Networks, NJ1Q & W1AW, AA3B, NG3K & ADXO, W3UR & The Daily DX, W4DTA, W4VQ, K8LBT, K8YSE, KT8D, W8GEX & 60m DX News, DL1SBF, DL7UXG & The DX News Letter, DXNews.com, DX-World.Net, F6AJA & Les Nouvelles DX, I1JQJ/ IK1ADH & 425 DX News, Sixitalia Weekly, VA3RJ & ICPO, VE7TK and YL2GM for the following DX information.

And as always, 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.

December...

A5, BHUTAN. Peter, HB9DVG (G4ENL/9X9PJ), will be working Wangdue Phodrang, Bhutan, until December 21st, and will be active as A52CC. Activity will be on various HF bands using SSB or FT8. Equipment is an Icom 7300 w/100 watts into an End-Fed antenna. QSL via N4GNR (No IRCs).

A950, BAHRAIN (Special Event). Members of the Bahrain Amateur Radio Society (BARS) will be active as A950ND from Manama to celebrate the 50th Bahrain National Day between December 1-16th. QSL via EC6DX.

5Z, KENYA. Ferdy, HB9DSP, will be active as 5Z4/HB9DSP from Malindi, Kenya, between December 2-16th. This will be his first ever DXpedition. Activity will be on 20/15/10 meters using mainly SSB with some FT8. His equipment is an Icom IC-7300 into an Spiderbeam Quad. QSL via his home callsign, direct, by the Bureau or LoTW (preferable).

6W, SENEGAL, Reminder - Dani, EA4ATI is QRV with his temporary call sign 6W1/EA4ATI and here for the next two months. He is active on 80 to 10 meters using mainly SSB. QSL via EA4R.

AU2, INDIA (Special Event). For the 16th year, look for special event station AU2JCB, to be active between November 19th and December 15th. Activity will be on 80-6 meters using SSB. Suggested frequencies are (depending on the propagation): 3710, 7040, 7150, 14210, 14250, 14310, 21235, 21310, 21350, 28490, 28510 and 28545 kHz. On FM Mode: 6m – 50800 and 51500; 10m 29700 kHz. If higher bands are open, operations will be on those bands. Operations are to celebrate the 163rd anniversary of the birth (November 30th) of Sir Jagadeesh Chandra Bose, India's great scientist and inventor who they consider the "Father of Wireless Communication".

DT8, SOUTH SHETLAND ISLANDS. Lee, DS4NMJ, part of a scientific team, continues to be very active from the King Se-Jong Korean Antarctic Base on King George Island (AN-010), South Shetlands (VP8/SH), as DT8A until December 31st. Activity will be on various HF bands using CW, SSB and FT8, with 100 watts. He has been heard on 80/40/20 meters using mainly FT8 (F/H) at various times, also on CW. QSL via DS5TOS.

HG5, HUNGARY (Special Event). Members of the Budapest Radio Amateur Society (BRASZ) have activated the special event callsign HG5PLANET until December 16th, on the occasion of "The Nature Friendly Development – Sustainability Expo" in Budapest. QSL via eQSL.

HS0, THAILAND. Brad, VK2BY, will be active as HS0ZNR from his Thai QTH in the district Nam Yuen, in the Province of Ubon Ratchathani, between December 12th and January 21st. Activity will be on all bands (160-10m). QSL via VK2BY direct (3 USDs and SAE).

HS0, THAILAND (Reminder). Lars, SM6NT, is once again active as HS0ZME from Hua Hin until April 5th. Activity will be on 40-10 meters using CW. View his setup on QRZ.com. QSL via his home callsign, direct or by the Bureau.

JA, JAPAN, Tashi, JR2TER is QRV as JR2TER/p from Yonaguni Island, IOTA AS-024, until March 2022. Activity is on the HF bands using FT8. QSL via LoTW.

LU5/ANT, ARGENTINA (Special Event). Members of the "Radio Club Grupo DX San Miguel" are using the special callsign LU5DSM/ANT (WAP-340) from San Miguel to celebrate the signing and 60th anniversary of the Antarctic Treaty System (ATS) in 1961. Activity will last until December 31st. QSL via LU5DSM. This is one of many stations on the air to celebrate the ATS60 event. Several "FREE" ATS60 online awards are available.

OQ60, BELGIUM (Special Event). Members of the UBA NOK will be active as OQ60ANT (WAP 338) from Turnhout, Belgium, until December 31st. Activity is to commemorate the 60th anniversary of the Antarctic Treaty Signature. QSL via ClubLog's OQRS; your QSL is not needed. They will send QSLs automatically via the Bureau.

PH21/PH22, THE NETHERLANDS (Special Event). Members of the Radio Scouting Fellowship (PI4RS) and the PA3EFR/J-Plusscouts will activate two special callsigns: PH21XMAS - Between December 6th, until January 3rd, PH21HNY - Between December 10th, until January 31st. These callsigns will operate on all frequencies from different QTH's around The Netherlands. They hope to be able to work everyday on SSB and the Digital modes. QSL route TBD.

S5100, SLOVENIA (Special Event). Members of the Radioclub Moravce will be active as S5100I to celebrate 100th anniversary of the discovery of insulin. Look for S5100I to be active until December 31st. QSL via the Bureau or direct.

TZ, MALI. Reminder - Ulmar, DK1CE, will once again be active as TZ1CE from the QTH of Jeff, TZ4AM/K1MMB, in Bamako, Mali, until December 8th (possibly longer). Activity will be on 160-10 meters (no 60m) using CW, SSB and FT8 (No F/H). QSL via DK1CE, by the DARC Bureau or direct. NO LoTW.

VU, INDIA, Abie, AB1F will be QRV as VU2ABE from Shillong in the Meghalaya State from Nov 6 to Dec 18. Activity on 40, 20, 15, and 10 meters. This includes participating in various upcoming contests. QSL direct to home call.

VX3, CANADA (Special Event). Look for special event station VX3INSULIN from Kingston, ON, Canada, to be active between December 1-31st. Activity is to mark the 100th anniversary of a Canadian team at the University of Toronto's discovery of insulin in the summer of 1921. Operations will be primarily digital, with FT8 and FT4 being the dominant modes of use. Other digital modes will be used as conditions permit. QSL via VE3NOO, direct, by the Bureau or eQSL.

XT2, BURKINA FASO. Harald, DF2WO, will once again be active as XT2AW from Ouagadougou, Burkina Faso, between December 3-20th. Activity is usually holiday style on 160-6 meters using CW, SSB and the Digital modes. He states that he works mostly on the Digital modes (FT8, PSK31, JT65 and RTTY) and CW. He said SSB will be used but only when conditions allow propagation. He usually will concentrate on 160/80/60 meters. He will also be active on the Satellites. Harald states that a big storm destroyed his vertical and Hex beam, so he will be using a multi-band dipole with Matchbox. See QRZ.com more details. QSL via M0OXO, direct or by M0OXO's OQRS. Bureau QSL cards are not required and any sent to him via the Bureau will not arrive there.

YI, IRAQ. Wisam "Sam", YI1WWA, a new radio amateur (Feb. 2021) from Baghdad, has been pretty active on the bands. Most of his operations have been on 20/15/10 meters SSB as early as 0530z and as late as 1600z. QSL via IK2DUW or ClubLog. Checkout his QRZ.com page and his FaceBook page.

Z2, ZIMBABWE. Operators Tom/DL7BO and Tom/DJ6TF will be active as Z22O and Z21A, respectively, from Harare, Zimbabwe, between December 2-15th. Activity will be on 160-10 meters using CW, SSB and FT8/FT4. Their equipment are two Icom IC-7300 transceivers and 1kw amplifier using 18m GP for low bands. QSL both callsigns via DJ6TF, for

Ukraine stations via UY5ZZ or LoTW.

Z3, REPUBLIC OF NORTH MACEDONIA. Michael, DF8AN, will be active as Z38/DF8AN from Skopje between December 29th and January 5th. Activity will be on CW and the Digital modes. QSL via DF8AN, direct or by the Bureau. NO LoTW. He states on QRZ.com, "Please send me a paper QSL..... I'm not a real friend of electronic QSL's."

IOTA News...

AS-024. Tashi, JR2TER, active as JR2TER/P from **Yonaguni Island** until sometime March. Most of his activity has been on 10 m FT8, but he has also been on 160/40/17/12m. QSL via eQSL, LoTW, by the Bureau and ClubLog.

AS-140. (Update) Ops Manju/S21AM, Fazlay/S21IRC and possibly Aminul/S21D will be active from **Manpura Island** between Dec 16-22nd. It was reported on Nov 14th, the callsign S21DX got approval from Bangladesh Telecommunication Regulatory Commission. They will operate with two stations in one multi-band beam, two verticals and 1 multi-band inverted V. Activity will be mainly SSB on 10m, 15m, 20m and some 40m if propagation permits. They have also decided to use FT8/FT4. QSL via ED7DX, direct, by the Bureau or LoTW. They are looking for support.

AS-177. Operators Madhu/VU3NPI (Team Leader), Mahendra/VU2MNX, Lion/ VU2JHM, Ram/VU2GRM, Giri/VU3GDS, "KK"/VU3UNO, Nyjil/VU3ZNG, Vijayakrishnan/VU3KWK and VU3ZLP will activate **St. Georges Islands** between Dec 3-6th. The team is awaiting for final permission to land and a special callsign. Activity will be on 40-12 meters using CW, SSB and FT8, with 100 watts into a parasitic array, 20m vertical, Delta Loop and a Bravo 7K 40-10m vertical. QSL information will be announced later.

Well that's it for now. For crying out loud, **GET ON THE AIR!** Work some DX. Frankly, if I can do it with 5 watts on CW, many of you should be able to do it with your 100 watt rigs. Work some DX. Do so using a different mode than usual. **HAVE FUN!!** **Until next year 73!**

The Heat is On !

Tom, WB8LCD

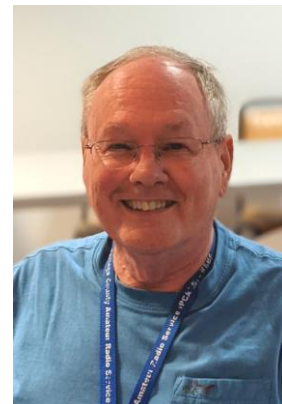
Baby It's ~~Cold Outside~~ Warm Inside – PCARS Bay 3!

Our furnace in Bay 3 gave up earlier this year. Having probably been originally installed 40+ years ago, Dave Hansford of Greer Heating in Kent told us it could be fixed, but he wouldn't bet on how long the fix might last. Jim, AC8NT and I searched many options which were presented to the board and finally chose the option of replacing the 40-year old behemoth with a more modern unit. It's all brand new, so hopefully it will provide us with a long, trouble free source of heat for many years.



The original furnace was designed to operate in an environment where the garage door was opening and closing on a regular basis while trucks came in and out. For our purposes, opening and closing the garage door (especially in the wintertime) should not be a frequent occurrence, so it should do a fine job of holding the temperature in the range we need. I'll be looking forward to some **"BIG FUN"** going on in there with some upcoming PCARS events!





Transmission Lines - Part 1

This is the first in a series of articles on transmission lines. Although we will be using a little math, we will be focusing on the applications not the theory. Tools we will cover include some relatively simple equations, Smith Charts including a web-based tool that requires only a browser to run (that's for all you Pi and Linux users), and the program SimSmith.

What is a transmission line?

The definition of a transmission line according to Wikipedia is “a specialized cable or other structure designed to conduct electromagnetic waves in a contained manner.” For hams a transmission line is the coax or ladder line that usually connects our transmitters and receivers to our antennas. Although these cables look simple, they have complexity that must be understood for them to be properly used. This article will cover the key elements that define a transmission line and how they are determined. Figure 1 shows the schematic diagram of a typical system using a transmission line.

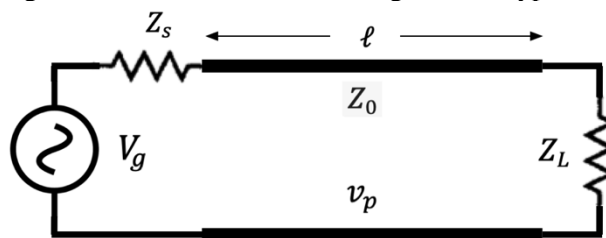


Figure 1

V_g is the signal source with its impedance Z_s . In most cases this impedance is entirely real, pure resistance with no reactance. For this article we will assume Z_s is equal to Z_0 . Next is the transmission line with a length of ℓ , a characteristic impedance of Z_0 , and a velocity factor of v_p . Last is the load with its impedance of Z_L . Our goal in building one of these systems is to have $Z_s = Z_0 = Z_L$. If this match can be achieved, maximum power from the generator can be delivered to the load. Some key points need to be made about these elements.

- Z_0 – the characteristic impedance does not change with cable length. It is also just a real value with no imaginary component. I should point out that there is a tolerance value for specified Z_0 . It is often ± 2 .
- Z_L – the load impedance can, and most of the time is, a complex value with a real and imaginary component of the form $R \pm jX$.
- v_p – the velocity factor is very important. RF travels slower in a transmission line than in free space. The ratio of the speed it travels in the line to the free space speed (the speed of light) is v_p .
- If the condition $Z_L \neq Z_0$, some of the signal sent from the generator will be reflected from the load to the generator. If $Z_s \neq Z_0$ the signals reflected from the load will be again reflected toward the load from the generator. These reflections result in lost power to the load. This lost energy is converted to heat in the cable.
- A very nice video on what happens in a transmission line can be found on YouTube at <https://www.youtube.com/watch?v=ozeYaikIIlg>.

What variables define the characteristic impedance of a transmission line?

If you watched the video, you would see each small section of the transmission line can be modeled using the circuit in Figure 2. R_0 is the resistance of the wire used in the line. L_0 is the inductance of each segment of the wire. Remember that even a straight length of wire has inductance. C_0 is the capacitance between the conductors and G_0 is the conductance

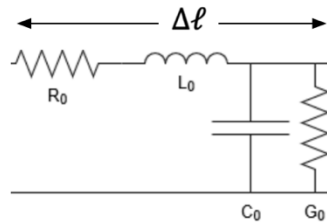


Figure 2

between the conductors. These elements form a complex impedance of the form $R \pm jX$ as shown in Equation 1. Since transmission lines are built to minimize losses, R_0 is very small and the conductance of the dielectric between the conductors is also very small. Therefore, Equation 1 can be simplified into Equation 2.

$$Z_0 = \sqrt{\frac{R_0 + j\omega L_0}{G_0 + j\omega C_0}} \quad \{eq\ 1\} \quad Z_0 = \sqrt{\frac{L}{C}} \quad \{eq\ 2\}$$

Example 1 shows the calculation of Z_0 with a $L_0 = .059 \mu H$ and $C_0 = 22.5 pF$. This is Beldon 9913F7 an RG-8U variety.

$$Z_0 = \sqrt{\frac{L}{C}} = \sqrt{\frac{.059 \times 10^{-6}}{22.5 \times 10^{-12}}} = \sqrt{.0026 \times 10^{-6-(-12)}} = \sqrt{.0026 \times 10^6} = \sqrt{2600} = 50.99$$

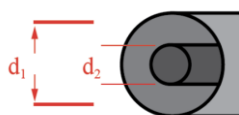
Example 1

How are they made?

Let's look at some construction parameters and how they effect the characteristic impedance. Figures 3 and 4 show some common constructions with their associated characteristic impedances. Some key points to these constructions are:

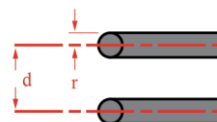
- For coax, d_1 is the I.D. of the outer conductor (often specified as insulation diameter) and d_2 is the O.D. of the inner conductor. If d_1 is increased without changing any of the other parameters, the characteristic impedance will increase. However, you can find many examples where a small diameter coax can have the same impedance as a larger one. Case in point RG-8U and RG-8X. Choice of dielectric material between inner and outer conductors can be used to reduce the diameter of the coax without changing the impedance.
- For ladder line, the impedance goes up as distance between conductors goes up. This is true in practice in that 600-ohm ladder line is wider than 450-ohm if the same wire gauge is used.
- The equations for microstrip and stripline impedances have many caveats. They are given here only to show their form. As an example, W_e is the "effective width of the trace" that includes edge factors and location on the board of the trace. There are many factors in the design of these transmission lines that are beyond the scope of this article. These examples have been included for completeness. Example 2 shows a typical coaxial cable calculation.

Coax Cable



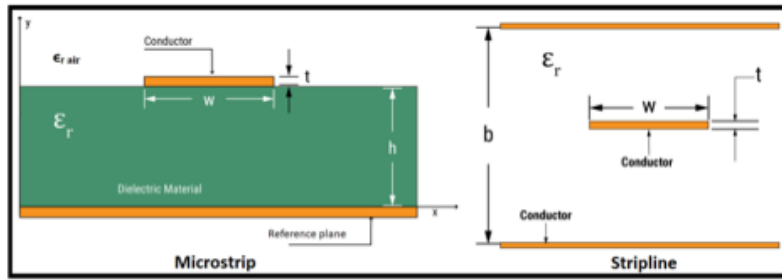
$$Z_0 = \frac{138}{\sqrt{k}} \log \frac{d_1}{d_2}$$

Ladder



$$Z_0 = \frac{276}{\sqrt{k}} \log \frac{d}{r}$$

Figure 3



$$Z_0(\Omega) = \frac{87}{\sqrt{\epsilon_r + 1.41}} \ln \left[\frac{5.98H}{(0.8W + T)} \right] \quad Z_0 \approx \frac{30\pi}{\sqrt{\epsilon_r}} \frac{b}{W_e + 0.441b} \Omega$$

Figure 4

$$Z_0 = \frac{138}{\sqrt{k}} \log \frac{d_1}{d_2} = \frac{138}{\sqrt{1.40}} \log \frac{.285}{.108} = 49.150$$

Example 2

What effect does the length of a transmission line have on a system?

When a transmission line is used to connect a transmitter to an antenna system, one effect is loss of power due to the transmission line's impedance. Coax and ladder line have loss factors expressed in dB/100' of cable. If you have a high loss coax with 3dB/100' loss, in a perfect matched system half of the power produced by the transmitter is lost as radiated heat in the cable. Not a very good system. Losses are also a function of frequency usually getting worse as frequency goes up. As an example, RG-8X has a loss of 2 dB/100' at 30 MHz and a loss of 4.5 dB/100' at 146 MHz. A lower loss LMR-400 has a loss of .7 dB/100' at 30 MHz and a loss of 1.5 dB/100' at 146 MHz. When using a transmission line to connect our transmitter to an antenna, shorter is better and the lower the loss factor the better.

If we are using a transmission line as a matching device, length is critical. Here we are usually cutting a transmission line to some fraction of a wavelength. Because RF travels slower in a transmission line than in free space, the wavelength in the transmission line is shorter than in free space. The parameter we must use for this correction is known as the line's velocity factor v_p . In free space RF travels at the speed of light. In air it travels very close to the same speed. In a transmission line it travels much slower. Let's see an example:

Assume we need a piece of coax that is a quarter of a wavelength at 7.250 MHz for a matching device. The wavelength in free space is $\lambda_f = \frac{c}{f}$ where c is the speed of light in free space, approximately 300,000,000 meters per second, and f is frequency in Hz. 7.250 MHz has a λ_f of 10.33 meters. Given a velocity factor of .84 in our chosen

Form	Type	Velocity Factor
Coax	RG-8U Foam (Belden 9913)	.84
	RG-8U PE (Belden 8237)	.66
	RG-8X (Belden 9258)	.82
	RG-213/U (Belden 8267)	.66
Ladder Line	450 Ohm (Wireman 553)	.90

Figure 5

transmission line, the wavelength in the line is $\lambda = v_p \lambda_f$ or 8.68 meters. We need to cut the line to 8.68 not 10.33 meters. When using transmission lines as matching devices we must use the velocity factor for our type of transmission line to calculate the correct length. The Figure 5 shows some common velocity factors. Note that the velocity factor can be different for the same type of coax designator. RG-8U Foam has a much higher factor than RG-8U PE. Make sure you use the correct factor for the cable you select.

One last calculation on length. You will often need to determine what fraction of a half wavelength is included in a line's length. Assume you have a line for use at 7.25 MHz that is traveling through a line that is 19.6 meters long with a velocity factor of .66:

1. Determine wavelength in free space $\lambda_f = \frac{c}{f}$. It is 41.34 meters.
2. Determine the wavelength in the cable $\lambda = v_p \lambda_f$. It is 27.28 meters.
3. Determine the length of half a wavelength in the cable by dividing λ by 2. It is 13.64 meters
4. Divide cable length by length of half wavelength which equals 19.6/13.64. It is 1.43 half wavelengths.
5. .43 is the residual fraction of a half wavelength.
6. Another way to look at is that you have two parts of the cable. One that is one half wavelength long and one that is .43 half wavelengths long.

This may look like a crazy exercise, but you do this all the time in looking at problems in transmission lines.

Next time we will be looking at the effect of transmission line length on the impedance of the transmission line and load as seen by the generator. We will also provide some simple rules to get those studying for their Extra through transmission line questions.

News from the CQ Blog

From the CQ Blog



First Bouvet ... and Now Crozet

After a Covid-induced pause in international travel, DXpeditions to remote locations are again on the increase. There has been much written about planned trips to Bouvet, and now a solo DXpedition to Crozet (FT5/W) is on the calendar as well. The Crozet Islands are a subantarctic archipelago in the southern Indian Ocean administered by France, and are a national conservation area.

The last ham radio operation from Crozet was in 2009 and that islands rank #3 on the DXCC most-wanted list. The *ARRL Letter* is reporting that French authorities have approved a one-person DXpedition to the archipelago between mid-December 2022 and mid-March 2023 by Thierry Mazel, F6CUK.

INDEXA, the International DX Association <www.indexa.org>, has already committed to supporting the trip, although the amount of its donation was not announced. It is not clear at this point how long Mazel plans to be on the islands or what call sign he will be using there. He notes on his Twitter feed (@Crozet2022) that initial reports of re-using a previously-issued call sign are incorrect and says the call to be used on this trip will not be announced in advance.



The Crozet archipelago (circled) is part of the French Southern and Antarctic Territories, shown in this regional map from the CIA World Factbook.

WRTC Announces Team Leaders and Qualified Competitors

The organizing committee of the next World Radiosport Team Championship (WRTC) competition has released its list of team leaders and others who qualify to be team members. According to the WRTC 2022 website, there will be 50 teams, broken down geographically as follows: Africa – 3 teams; Asia – 8; Caribbean – 1; Europe – 18; North America – 13; Oceania – 3; and South America – 4.



The designated team leaders will be able to select potential teammates from a pool of more than 270 qualifying amateurs. The competition, originally scheduled for 2022, was delayed a year due to Covid restrictions that limited access to certain qualifying events. It is currently scheduled to be held in and around Bologna, Italy in July 2023.

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Listen for Special Dutch Calls Around the Holidays

Three hams from the Netherlands will be activating three special holiday-themed call signs during December and January. According to Southgate Amateur Radio News, PA5DX, PD8DX and PD9YL will be operating PA21XMAS, PD21SANTA and PD22HNY, respectively, on the HF bands, 2 meters and 70 centimeters, using SSB, FT4 and FT8. A certificate is available if you work at least two of them. Details are on the PA21XMAS page on QRZ.com.



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New Group of CW Groups Formed

Many hams around the world have formed groups to encourage and promote learning and using Morse code on the air. Now, according to *Newsline*, those groups have formed a group for greater cooperation and collaboration. The International CW Council started this past January at a meeting organized by Howard Bernstein, WB2UZE, of the Long Island CW Club.



Nearly two dozen groups have already affiliated themselves with the new umbrella organization, including CW Ops, FISTS, SKCC, NAQCC, K1USN and the A1 Club of Japan. More information on the council is available at its website, www.internationalcwcouncil.org.



Dayton Hamvention® 2022 is a “GO”

Dayton Hamvention®
Sponsored by Dayton Amateur Radio Association
Since 1952

Dayton Hamvention® 2022 is not just going to be a premier hamfest but a reunion, as organizers prepare for the first gathering at the Xenia Fairground and Expo Center in Ohio after two years of cancellations.

Hamvention's **General Chairman Rick Allnut, WS8G** said in a phone interview that committees have been meeting and volunteers are committed to making up for the time lost to pandemic cancellations.

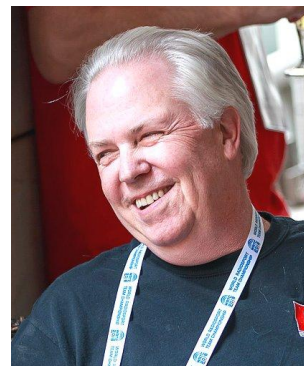
Hamvention® will be happening on Friday **May 20th through Sunday May 22nd** with an international reception scheduled on Thursday May 19th. Rick said the registration site is already taking bookings from vendors and inside exhibitors and individual visitors can already buy their tickets. All details are available on the Hamvention® website.

Rick said: "Tickets are all printed and ready to go." <https://hamvention.org/>

Contest University 2022

Contest University

Tim, K3LR
For the Contest Hotel Committee



Attention Contesters and DXers! Contest-related activities that have previously taken place at the Crowne Plaza Hotel during the Dayton Hamvention® are moving to the Hope Hotel beginning in 2022.

In May 2022, official Contesting activities will be at the Hope Hotel, including four nights of the Contest Super Suite, Contest University, The Top Band Dinner, The Contest Dinner and the KC DX Club CW copying competition. There may be additional related events as well.

The Hope Hotel is an excellent facility, well suited for Contesters and DXers. There is plenty of parking and it is located closer to the Hamvention than the downtown Dayton hotels. The Hope Hotel is adjacent to the Wright-Patterson Air Force Base. Guests do not go through the security gate. We have spent almost two years working on this project and we believe you will enjoy the change of venue.

Room reservations will be taken by the Hope Hotel. You can get room reservations by phone only. If you try to book on line you will see that there are no rooms for those dates. Every room in the Hope Hotel has been blocked for Contesters and DXers for Hamvention week. You can call 937-879-2696 and ask for a reservation in the Contest University 2022 room block. There is no minimum night commitment. The room rate is \$143 per night plus tax and that includes a hot buffet breakfast each day of your stay. The room rate is the same for a single queen, two queens or a single king with a pull out.

If you have 2022 reservations at the Crowne Plaza (now the Radisson Hotel Dayton) you can contact the Radisson at (937) 224-0800 to cancel and obtain any refunds. The Radisson is aware of the venue change for our activities.

Please spread the word to all Contest Club reflectors, etc.

We look forward to seeing you on Wednesday night, May 18, 2022, for the first night of the 2022 Contest Super Suite at the Hope Hotel. <https://www.hopehotel.com/>

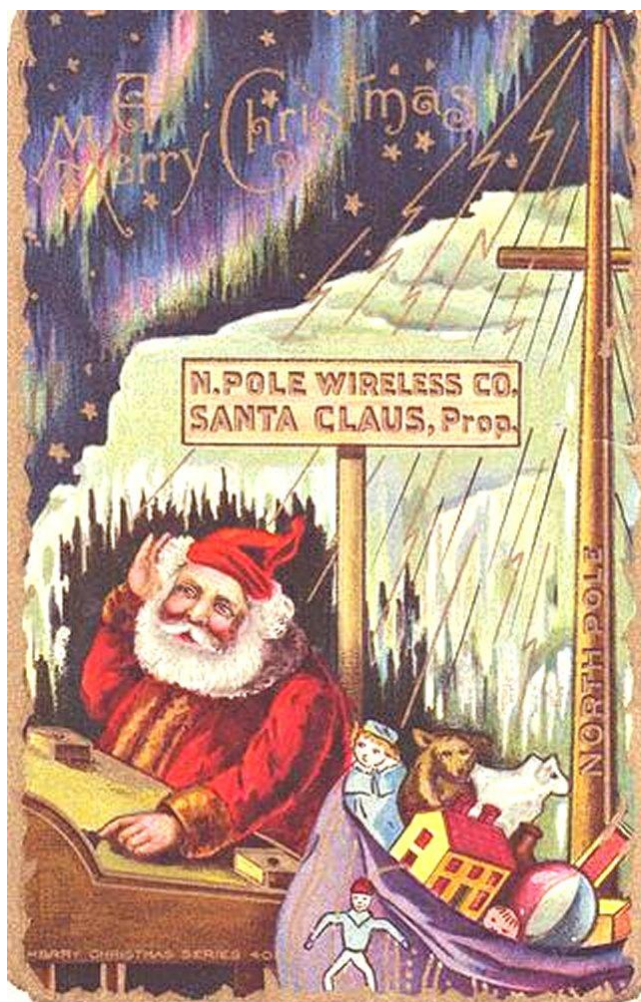


PCARS

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



Paper Chase - Two to Get In Your Logbook

Joe, W8KNO



A **Pearl Harbor Day memorial crossband operation** will be from the U.S.S. Iowa battleship, callsign **NEPM**. W6HB (aka E51DLD) says the authorization for this comes from the U.S. Navy Third Fleet spectrum manager. The operation is December 7th, from 1600-2400 UTC. You will find NEPM on 14781.5 kHz USB, listening on 14343 kHz USB.

QSL is available if you send a SASE via NI6BB or NE6PM. The Iowa is being made into the National Museum of the Surface Navy in the near future.



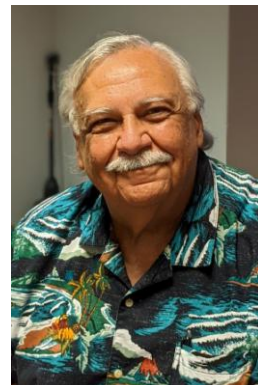
It being December, when we all remember Pearl Harbor and having been in the Navy for sixteen years, it is only logical to have something Naval themed. **The Charleston Amateur Radio Society** will fulfill that with their 50th Anniversary special event station from the **USS Yorktown (CV-10)**. USS Yorktown is one of 24 Essex-class aircraft carriers built during World War II. She was named after the Battle of Yorktown of the American Revolutionary War, and is the fourth U.S.

Navy ship to bear the name.

The special event station will be on the air December 18th from noon till 5 pm local time. You should be able to find it on or near 7.250, 14.296 and 21.290. After working them you may receive a Certificate and QSL card from: William Dean - 30 Lombardi Lane - Hanahan, SC 29410 I'll listen for you in the pile-up,



Chuck, W8PT
FYAO Chairman



You'll recall that we did not have our annual Freeze Your Acorns Off QRP event last February. We had to cancel it because of Covid. So a few of us got our heads together to discuss what we could or should do. This is one activity that PCARS has done every year since we started and we did not want to skip a year. It was decided that we would have the event in December with the 2022 event the following February.



So, get your woolies on because on **December 4th, at Fred Fuller Park** in the Roy Smith Shelter house, we will be holding our 2021 Freeze Your Acorns Off QRP Event. Set up begins at 9AM with the event starting at 10AM and continuing until 3PM. See the flier in this issue of the newsletter.

And as in the past, there will be a contest within our contest with our **Best Recipe Cook Off** contest. So dust off your aprons and get the crock pots going. We want to see your best Chili, Mac & Cheese, Irish Stew, Sloppy Joe recipes PLUS MORE created for our enjoyment. Who knows, yours truly might even bring a dish to pass. As always, there will be coffee and donuts to begin the day.

I'm hoping to see a whole lot of PCARS members attend and have at least 6-8 members set up stations to see who will get their name engraved on the FYAO club site plaque.

Please plan on taking part in this fun event. AND - wear your fancy Hawaiian Shirt !!



DX Engineering is Hiring

DX Engineering - a long time supporter of PCARS - is hiring. Share your passion for Ham Radio and get paid for it.



DX Engineering is looking for active Hams for several areas: **Technical Sales Rep, Retail Technical Sales Rep** and many others. The most up to date list is available here: <https://summitracing.wd5.myworkdayjobs.com/DXEngineering-External-Career-Site>

Multiple positions open. Flexible days and hours. Check back often to see new opportunities. DXE is a great place to be - working daily with other ham radio operators. Join the team.



Dipole and Discone Installed

Rick, K8CAV



I've never been much of a contester or DX'er at my home QTH; in point of fact almost all of my HF operations over the years have been statewide on MARS or emergency communications nets using NVIS propagation. In this mode, a simple wire antenna relatively close to the ground is ideal though not so for long distance HF contacts. After participating in Field Day 2020 at home, the shortcomings of my single, 260 ft dipole at 35 ft became obvious, especially on the higher HF bands. As I already had a 40 ft tower in place I decided to build a better antenna for 20 meters through 10 meters and mount it on the mast at the top of the tower.

For simplicity's sake and to avoid having to install guys on the tower I decided to go with a single 20 meter dipole and use a tuner for the remaining HF bands through 10 meters. I modeled the antenna using EZNEC and found that I would get good performance with both decent gain and low angles of radiation for 20 through 10. SWR would obviously be high on the bands above 20 but my hope was an antenna tuner would cover the impedance mismatch, which turned out to be the case. With only 35 ft of DXE-400Max coax, the losses due to mismatch would be within acceptable limits. The use of a balun on the tower just below the dipole ensured RF would be kept off of the coax feed line. The dipole was built, courtesy of a local fabrication shop for the bracket, and DX



Engineering for the tubing and clamps.

My local tree company has this really super machine called a Min-Lift, which has a 50 ft working height, and a basket big enough for two to three people. When I saw it in action the light bulb went off. I talked to the owner and he was more than happy to rent the lift with a crew of one to operate it, thus solving how I was going to get the antenna mounted on the mast without having to climb the tower. While I was at it, I also bought a Discone antenna and made up a side tower mount for just general use through 2 GHz. Yeah I know Discones are poor performers but hey, it is better than a light bulb, ha ha. The bottom line was that, with the use of that Mini-Lift, it took three hours start to finish to get the whole job completed.



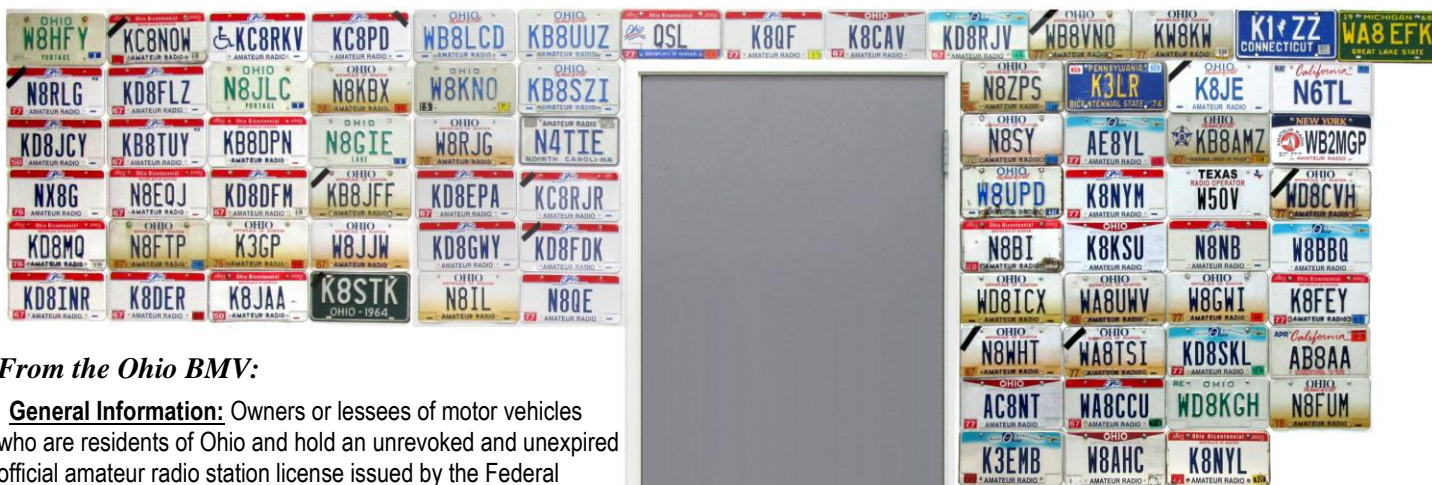
The LDG AT-100ProII had enough range to tune the dipole on all of the bands from 20 meters through 10 meters. I did some A-B testing between the 20 meter dipole and the 260 ft dipole on 20, 17, and 15 meters and found significantly better performance with the 20m dipole, no surprise there. I was unable to compare on 12 and 10 meters as there were no signals at the time I did the test. All in all, I was very happy with the results and the fact that when things start opening up on the higher bands, I'll be able to enjoy them more.



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 73 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 now on YouTube. So, what does that mean? Hey, we have a new place to put all kinds of videos that are about PCARS for the world to see.



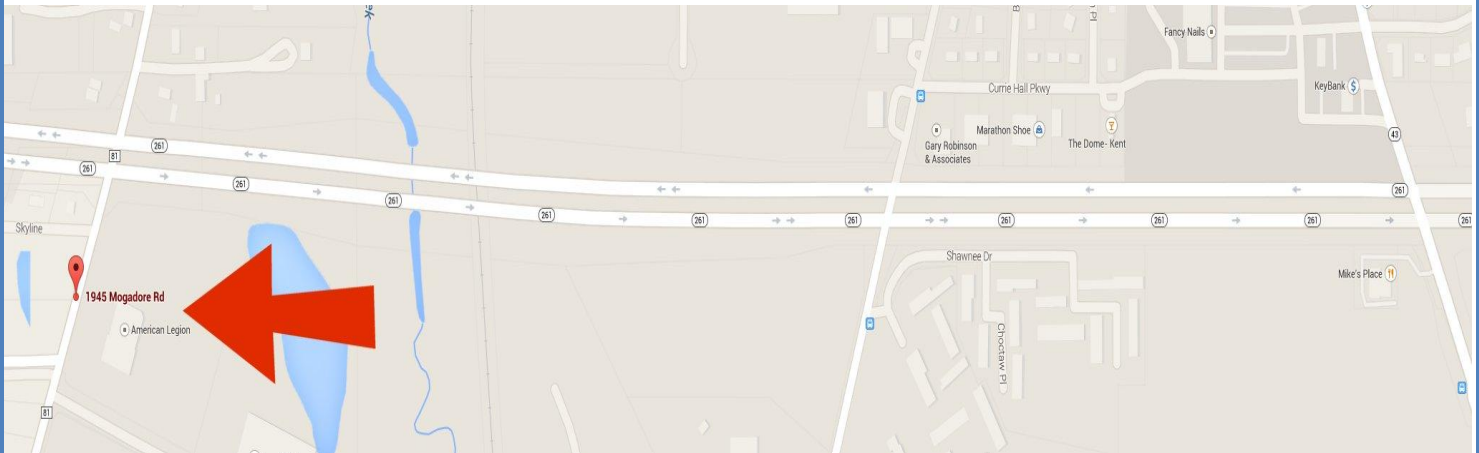
PCARS Meetings

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



CHECK WEBSITE FOR UPDATES ABOUT IN-PERSON MEETINGS

*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 the 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.



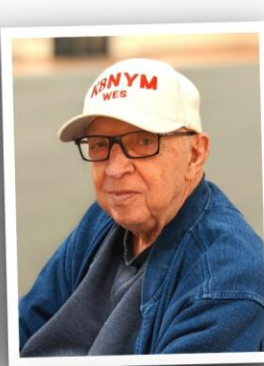
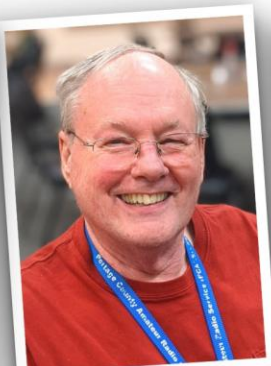
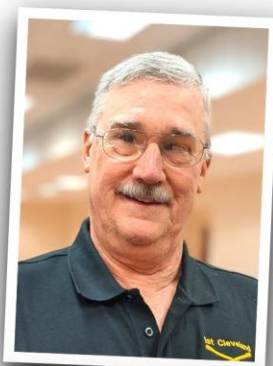
*The picture on the left shows
The American Legion Post 496
as viewed from Mogadore Road.
(looking East)*



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.

Photos from the November Meeting



PCARS
Nov. 8, 2021



PCARS

Nov. 8, 2021





Portage County Amateur Radio Service, Inc. (PCARS)

Membership Application ☐ New ☐ Renewal

This form MUST be filled out for any membership transaction

Name: _____ Call Sign: _____ License Class: _____
(Name Example: You can enter Bob instead of Robert if you want too. Also if you have a nick name you want listed, enter that, too)

Address: _____

City: _____ State: _____ ZIP: _____

Phone: _____ E-Mail Address: _____

ARRL Member? ☐ Yes ☐ No ARRL Membership Expires Month: _____ Year: _____
Use 2099 if ARRL Life Member

(We need month for the Birthday List and we need year to keep on file for the senior member advantages)

Birthday: _____ Month: _____ Year: _____

A \$5.00 initiation fee will be assessed in the first year of membership for all new members.
Membership year is Jan 1 - Dec 31. Dues are due no later than Dec 31st. If you don't pay by 12/31 - you are no longer a member and you will have to pay the \$5.00 fee again plus dues per the schedule below and you will be issued a new member number.

Check One	Membership	Renewal & New Membership Rate **	New Membership Rate **
<input type="checkbox"/>	Life Member ***	\$75-Founder \$175-Charter	\$250-Regular \$125-Senior
<input type="checkbox"/>	Regular Member	\$20.00 Jan-Dec	\$15.00 July-Dec
<input type="checkbox"/>	Associate Member	\$20.00 Jan-Dec	\$15.00 July-Dec
<input type="checkbox"/>	Senior Member (65+)	\$16.00 Jan-Dec	\$11.00 July-Dec
<input type="checkbox"/>	Family Member *	\$10.00 Jan-Dec	\$5.00 July-Dec

*Family = wife, husband, brother, sister, son, daughter, father, mother that is a licensed amateur radio operator and who's FCC license has the same address as the paid regular member's FCC license.

**The rate plus a \$5.00 initiation fee will be assessed for all new members.

*** Must have been a member in good standing for previous 5 consecutive years.

Checks can be made out to either "PCARS" - or - "Portage County Amateur Radio Service, Inc."

What are YOUR Ham Radio interests:

Signed: _____ Date: _____

As a member in PCARS you agree to PCARS sending club related information to your e-mail address and allowing use of your photographs submitted or taken during PCARS events to be used for PCARS publications and ham radio related articles.

Mail to: Portage County Amateur Radio Service, Inc.
705 Oakwood Street - Box 12
Ravenna, OH 44266

Date Received:	<input type="checkbox"/> New <input type="checkbox"/> Renew
Initiation Fee: \$	+ Dues: \$ = Total \$ 90.00
Paid: <input type="checkbox"/> Cash -or- <input type="checkbox"/> Check	Check #
-or- <input type="checkbox"/> PayPal Transaction Number:	
Date Voted:	Results:
<input type="checkbox"/> Database Updated	Member Number:

Rev. 9 September 2020

Portage County Amateur Radio Service, Inc.



PCARS - K8BF

16th Annual

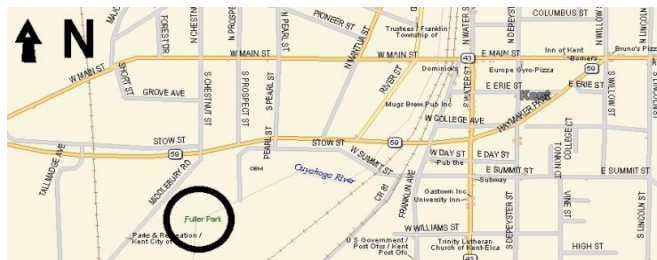
"Freeze Your Acorns Off"
(FYAO) Special Event Station



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

When: Saturday - Dec. 4, 2021
Set up: 9 am

Operating Time: 10 am - 3 pm EST



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-L 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 snowy weather of North Eastern Ohio to set up QRP stations using portable power and antennas.



A beautiful color (suitable for framing) 8" x 10" certificate is available if you contact K8BF on 2 meters FM or EchoLink and send your QSL **with a large SASE** to the club call trustee:

Amy Leggiero, N8AMY - 6229 Gladys St Unit B - Ravenna, OH 44266

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!



Check PCARS out on the web at: www.portcars.org
Questions? Contact Chuck, W8PT at chuckw8pt@gmail.com



Amateur Radio GENERAL Class ~ Upgrade Class ~



The **Portage County Amateur Radio Service, Inc. (PCARS)** is offering a General Class upgrade course

When: **Wednesday Evenings 7:00 p.m - 9:00 pm.**

January 5, 2022 through February 16, 2022 - 7 weeks

License testing on the last day of class - Feb. 16th



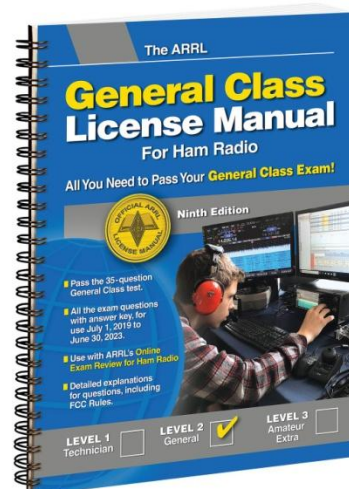
Where: At the PCARS Club Site located in the Dietrich Building - 705 Oakwood Street - Ravenna.

Cost: \$25.00 registration fee for non-PCARS members. *\$25 fee includes a One Year Membership in PCARS* There is **no** fee for current PCARS members

Text: ARRL “General Class License Manual”
Book may be purchased from PCARS for \$33.00 (Limited Supply)

Contact: **Jim Wilson, AC8NT**

Registration: by e-mail: AC8NT@portcars.org
or phone: **330-342-8149**



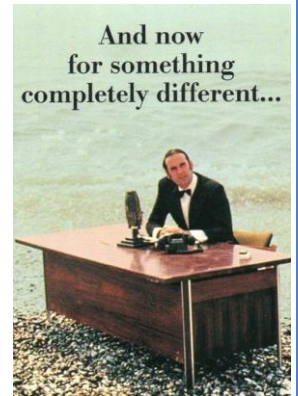
Please register with Jim, AC8NT as soon as you can
You can pay the registration fee the first night of class

As a **General Class Amateur Radio Operator** you will be able to Contact other ham radio operators in the area around the world on the HF Bands.

It will open up a whole new area of fun for you in Amateur Radio.

THERE WILL BE A FIVE STUDENT MINIMUM (or no class will be done)

Questions Looking for Answers and More



1. If poison passes its expiration date, is it more poisonous or is it no longer poisonous?
2. Which letter is silent in the word "Scent," the S or the C?
3. Do twins ever realize that at least one of them is unplanned?
4. Why is the letter W, in English, called double U? Shouldn't it be called double V?

- Maybe oxygen is slowly killing you and It just takes 75-100 years to fully work.
- Every time you clean something, you just make something else dirty.
- The word "swims" upside-down is still "swims"
- 100 years ago everyone owned a horse and only the rich had cars.
- Today everyone has cars and only the rich own horses.

Six great confusions still unresolved. I only see 4!!!!

1. At a movie theater, which arm rest is yours?
2. If people evolve from monkeys, why are monkeys still around?
3. Why is there a 'D' in fridge, but not in refrigerator?
4. Who knew what time it was when the first clock was made?

Vagaries of English Language!

- Ever wonder why the word funeral starts with FUN?
- Why isn't a Fireman called a Water-man?
- How come Lipstick doesn't do what it says?
- If money doesn't grow on trees, how come Banks have Branches?
- If a Vegetarian eats vegetables, what does a Humanitarian eat?
- How do you get off a non-stop Flight?
- Why are goods sent by ship called CARGO and those sent by truck SHIPMENT?
- Why do we put cups in the dishwasher and the dishes in the Cupboard?
- Why do doctors 'practice' medicine? Are they having practice at the cost of the patients?
- Why is it called 'Rush Hour' when traffic moves at its slowest then?
- How come Noses run and Feet smell?
- Why do they call it a TV 'set' when there is only one?
- What are you vacating when you go on a vacation?

Did you know that if you replace "W" with "T" in "What, Where and When", you get the answer to each of them?



Thanks & 73



Parky, KB8UUZ
PCARS Newsletter Editor



I really appreciate the help in gathering material to keep this newsletter number one. Without your help we would not have received the newsletter awards this year and in past years. All of our members (and others) look forward to getting this newsletter every month, so keep sending those inputs! I'm sure PCARS is known as the **BIG FUN** amateur radio club. So chip-in and send your article in to keep this newsletter great for 2022 and beyond.

Thanks go out to the contributors for this month's newsletter:

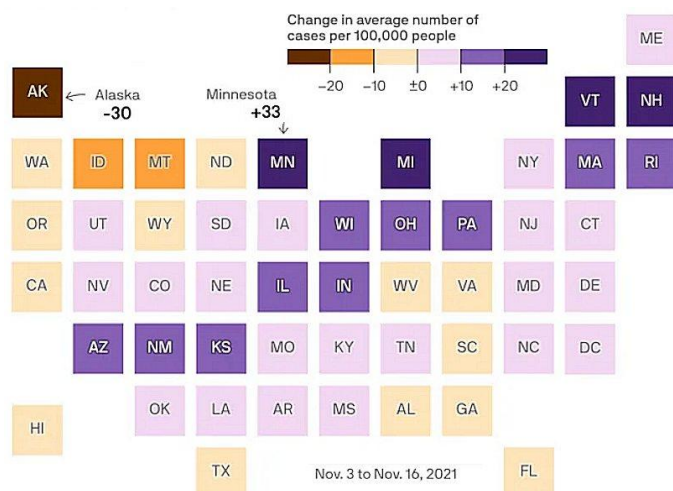
AC8QG, N8WCP, WB8LCD, KB8UUZ, WG8X, KE8EGF, KA8TOA, K8CAV, WA8AR, AC8NT, W8PT, K3LR, W8KNO, KE8LWO, The ARRL, CQ Magazine Blog, DX Engineering and the World-Wide Web

With *your* continued help – we can keep making this a *great* newsletter.



It's still here - and it looks like it will be for a while

Here we go again..... The World Health Organization announced Friday (11-26) that it deems this strain, B.1.1.529, a variant of concern, and has named it Omicron. It's the first new variant of concern since Delta. It was first confirmed in South Africa and now in Europe. It is probably here in the USA as well and is highly transmittal.



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

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

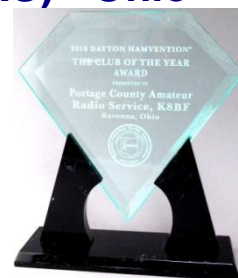


PCARS meets the second Monday of each month at the **Kent American Legion Post 496**.
1945 Mogadore Rd. - just South of Rt. 261 - Enter the rear of the building for the meeting room.

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



~ 2021 Officers ~		2021 PCARS Appointments & Committees	
President - Nick Wagner - AC8QG Vice President - Mike Szabo - N8WCP Treasurer - Paul Hyland - KE8EGF 3 Year Trustee - Amy Leggiero - N8AMY 2 Year Trustee - John Myers - WG8X 1 Year Trustee - Chuck Patellis - W8PT Past President - Tom Sly - WB8LCD		ARRL Awards - DXCC	W8KNO Joe Wehner
		Club Site Manager/Liaison	K8CAV Rick Kruis
		Contest Coordinator	W8PT Chuck Patellis
		EchoLink	AC8NT Jim Wilson
		Field Day Chairman, 2021	WA8AR Tony Romito
		FYAO Chairman	W8PT Chuck Patellis
		Historian	KB8SZI Peggy Parkinson
		K8BF Callsign Trustee	N8AMY Amy Leggiero
		K8BF QSL Manager	N8AMY Amy Leggiero
		Membership Chairman	AC8NT Jim Wilson
		Net Control Manager	KA8TOA Greg Ash
		Net Night - Club Manager	WB8LCD Tom Sly
		Newsletter Editor	KB8UUZ Tom Parkinson
		OSPOTA Chairman	KB8UUZ Tom Parkinson
~ Meetings & Net ~		PCARS Meeting Photographer	KE8LWO Bernadette Wagner
2nd Monday of each month, 7pm Thursday night Club Net at 8 pm on 146.895		Secretary	AC8NT Jim Wilson
		Social Media	N8AMY Amy Leggiero
		Tech, Gen & Extra Class Manager	AC8NT Jim Wilson
		Volunteer Examiner Liaison	KB8UUZ Tom Parkinson
		Webmasters	KD8MQ John Myers K8SRR Steve Randlett



**PCARS
Active
Volunteer
Examiner
Team
Members**

KB8UUZ	Tom Parkinson
AC8QG	Nick Wagner
AC8NT	Jim Wilson
N8QE	Bob Hajdak
KA8TOA	Greg Ash
WA8CCU	Al Nagy
N8PXW	Jim Korenz
K8IV	Ed Polack
N8AMY	Amy Leggiero
N8FUM	Dan Torchia
N8XTH	Deron Boring
WB8LCD	Tom Sly
W8PT	Chuck Patellis
W8GWI	Dave Seckel



THE RADIOGRAM

PCARS Incorporated
Nov. 1, 2005

First Meeting
Nov. 14, 2005



ARRL Affiliation
April 20, 2006



Special Service Club
March 22, 2010

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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 KB8UUZ@gmail.com. The RADIOGRAM always obtains written permission for reproducing copyright material. The RADIOGRAM comes out the first day of each month (usually), please have inputs 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!**

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