



The **RADIOGRAM**

When All Else Fails ~ Amateur Radio Works

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

PCARS - the 2018 Hamvention® Club of The Year

January 2022 - Volume 17 Number 1

Center of Hope Donation

Center of Hope



PCARS K8BF

The Club that puts the FUN in Ham Radio!





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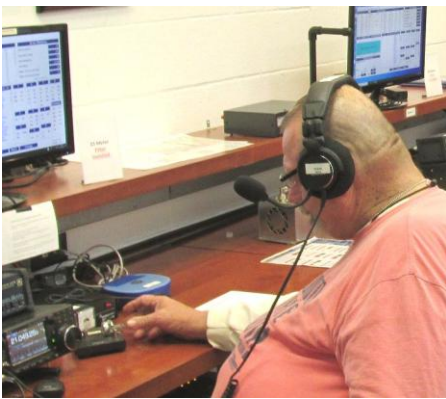
Terry Morris, KB8AMZ, SK

It is with deep sadness that we report Terry Morris, KB8AMZ passed away on his 75th Birthday - December 12, 2021.



Terry joined PCARS in June of 2007 as member #78. He served as PCARS Trustee and both the CW-QRP SIG Coordinator and Linux SIG Coordinator. He was a contributor of many articles that were in The RADIOGRAM newsletter. Terry belonged to a number of ham radio

clubs and he always said was glad he found and joined PCARS. He very much enjoyed being an active member in the club. His passion for our hobby was shared by all that listened to his stories and mentoring. He had a thirst for knowledge and shared it with others. He will be missed by many. Funeral arrangements pending, further info will be posted on the PCARS website when it becomes available.



Terry leaves a Son Matthew, Brothers and sisters and many friends. He was a member and officer of the Fraternal Order Of Police - Lodge 70 in Ravenna.

From Terry's QRZ Page: "I tested for Novice in 1986 after completing a class. My ticket arrived in late January 1987; I just turned 40 in December 1986. Passed Technician in February and General in March 1986. Every couple years since 1986 I tested for Advanced. This test was my nemesis. Finally, on 14

APR 2018 I passed Element 4. 1966-1968, while stationed at Guantanamo Bay, Cuba as a meteorology specialist in U.S. Navy, a couple ham's provided phone (patch) contact to sailors and marines over the Christmas holiday. It was only a five (5) minute contact but to hear Mom and Dad's voices over radio to phone to radio was a refreshing sound. It was a brief stimulus to peak interest in the hobby but not enough to get me started.

I learned Morse Code as a Boy Scout using a flashlight but using my ears instead of my eyes to decipher was actually easier. My Elmer was a member of the Kent State University Amateur Radio Club, K8GRA, and this is where he taught me CW and let me make 3rd party CW contacts. Receiving QSL cards from those contacts was a thrill. I realize they don't count toward any awards with the ARRL but I treasure all seven of them. In 1986 I passed the Novice written and 5 WPM Morse Code. I finished my Novice class. I couldn't operate as a Novice until my ticket arrived. It seemed like FOREVER. Two months later it showed up in U.S. Postal Service.

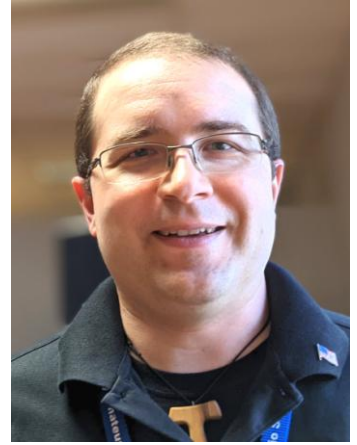
My local radio is PCARS. I have finally found the club that inspires me to shine in my hobby. I am a member, a volunteer, an instructor, I chair 2 Special Interest Groups, a contest team member and an Elmer. This club has a lot activities for all hams to participate in every month. I hope this ride never ends."



From the President



Nick, AC8QG
PCARS President



I'm incredibly grateful for all the amazing experiences of 2021. The year started under lockdown, and we still have this virus hanging over our heads, but through the determined efforts of several people, we kept going.

We saw SIGs return to in-person, although we continue with a Zoom option. We even picked up the new Portable Operations SIG. VE sessions made a comeback, too, as did our license classes. The Field Day team adapted and modified their plans to provide a fun but safe experience, and we were able to hold Freeze Your Acorns Off a bit later than usual. We worked some contests, hosted the BB-QSO party, held the Cruise-In, participated in a maker event, and raised our largest-ever donation for the Center of Hope. **Thank you to everyone who made these experiences a reality!**

Most of all, I'm grateful for all of you, the members of PCARS. I'm grateful for the new hams and the veterans, for the old and the young, for the "hardcore" and the casual, too. I'm grateful for the tinkerers, the teachers, the participants, and the leaders. I'm grateful for everyone who donated their time and talent, for those who gave a little, and for those who gave a lot. **YOU make this club worth it. YOU make this club fun. YOU make this club a shining example within the amateur radio community. Thank you!**

FYAO 2021

It came about 10 months late, but Freeze Your Acorns Off 2021 was a welcome addition to a busy December. I measure the success of this event by two things: smiles and good food. I'm pleased to report an abundance of both this year. Oh, and of course, several people made QRP contacts throughout the day. It was another "Big Fun" success!

Remember, FYAO 2022 is right around the corner on February 12!

New Wagner Baby

For everyone who has been wondering, our newest family member, Sophia, arrived on December 15. Mom and baby are both doing very well. We all appreciate the well-wishes, thoughts, and prayers from so many of you!

December Christmas Dinner

Our annual Christmas dinner was back after a one-year COVID-19 hiatus. Many thanks to Tom, WB8LCD for his efforts in coordinating everything! The food was excellent! Bert and his team from Little City Grill did a fine job. And, of course, it was great to be with everyone who was able to join us!



13 Ways You Can Help PCARS in 2022

1. Tell us what you would like to see for speakers, SIG topics, and projects.
2. Check in to our weekly 2 Meter Net and our monthly Flex Net.
3. Operate as the net control station for one of the nets.
4. Attend club meetings, SIGs, and special events. (Zoom counts!)
5. Help out at a club site cleanup or improvement project.
6. Operate with the contest group.
7. Join us in setup, teardown, and operation during Field Day.
8. Mentor a fellow club member.
9. Share your learning from your latest project.
10. Write an article for the newsletter.
11. Join our VE team.
12. Volunteer for an appointed position.
13. Tell a friend about PCARS.

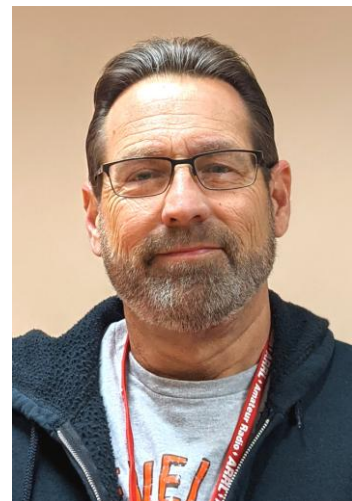
Happy New Year

May the New Year bring you many new adventures and opportunities! May you experience peace, health, and joy throughout 2022! I look forward to joining all of you, in person or virtually, for another “Big Fun” year!
Happy New Year to you and your family!

From the Vice President



Mike N8WCP
PCARS Vice President



Happy New Year!

Another year is in the books. I hope you had an enjoyable holiday and are ready for another year of fun with amateur radio and PCARS.

Our January meeting will feature Bill Fraedrich-WB9LBI who will present the History of Morse Code. Michael Kalter-W8CI will discuss the 2022 Dayton Hamvention at our February meeting.

Does your 2M/440 signal need a boost? John-WG8X is working on an Open Stub J-Pole build project expected to be ready for February. Keep an eye out for a QST announcing the build date.

Is there an activity, build project, or topic you would like to see the club address? If so, I'd like to hear from you, just send an email to: vicepresident@portcars.org.



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.*

January 3rd - PCARS Board Meeting at the club site & Zoom - 7pm
January 10th - PCARS Meeting - Kent American Legion & Zoom - 7 pm
February 5th - VE Testing at the PCARS club site - 10 am
February 7th - PCARS Board Meeting at the club site & Zoom - 7pm
February 12th - 17th annual FYAO - Fred Fuller Park - see flier
February 14th - PCARS Meeting - Kent American Legion & Zoom - 7 pm
March 5th - PCARS Board Meeting at the club site & Zoom - 7pm
March 14th - PCARS Meeting - Kent American Legion & Zoom - 7 pm

First Tuesday - **Digital** - Moderator: Rick, K8CAV - **On Zoom Only** -

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

Happy Birthday PCARS Members

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

KB8ZWT	Jeff
N8GIE	John
KB8SZI	Peggy
N1CJW	Christopher
KE8KBJ	Mara
KE8NNC	Brian
K8MSH	Mark
NR8W	Russ
KD8SOP	Eddie

KE8BFA	Janice
K8JJM	Jeffrey
N8PXW	Jim
WA8OHK	Thomas
NX8G	Rex
N8NB	Dave
K8FS	Michael
W8BBQ	Mark
KE8TEJ	Roger

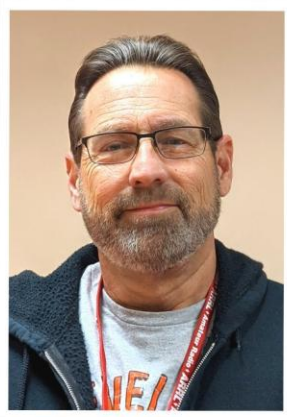


Congratulations to the PCARS 2022 Officers

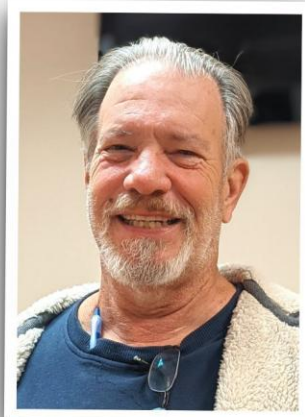
The annual election of officers for PCARS was held at the November PCARS in-person and Zoom meeting. All of the winning candidates start their term on January 1, 2022.



**President
Nick AC8QG**



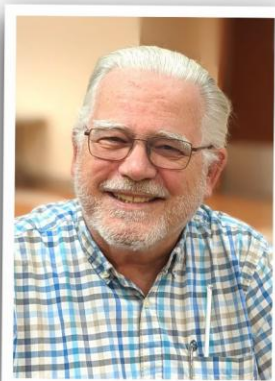
**Vice President
Mike N8WCP**



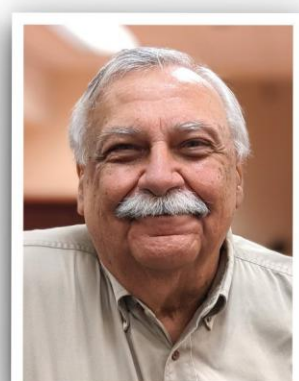
**Treasurer
Greg KA8TOA**



**1 Year Trustee
John WG8X**



**2 Year Trustee
Tom KB8UUZ**



**3 Year Trustee
Chuck W8PT**



**Past President
Tom WB8LCD**

Center of Hope Donation - Press Release



705 Oakwood St. Suite 221
Ravenna, OH 44266
P: 330.297.7027 | F: 330.296.2684
fcsserves.org

Go forth, do good.



December 14, 2021

For Immediate Release

Portage County Amateur Radio Makes Largest-Ever Donation to Local Food Program

Ravenna, Ohio – For the past 16 years, Portage County Amateur Radio Service (PCARS) has raised funds for local food program, the Center of Hope, a program of Family & Community Services (FCS).

This year, however, PCARS made their largest donation yet – \$10,471.76 – all of which will go to help the Center of Hope with their holiday distribution that provides toys and food for Ravenna families in need.

PCARS Vice President Mike Szabo and Treasurer Paul Hyland, presented the check to Mark Frisone, Executive Director of Family & Community Services, as well as Lajoyce Harris, Program Manager of the Center of Hope. The donations are collected from club members as well as the community, and have made a significant impact on Portage County over the past years.

In their December newsletter, PCARS President Nick Wagner said, "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."

Each year, the Center of Hope impacts hundreds of families in Portage County by providing hot meals five days a week through its congregate dining center, as well as emergency groceries through its choice pantry. Services are free of charge and dependent on an individual's income.

"FCS is grateful for this generous donation and for the support of PCARS, year after year" said Frisone upon accepting the club's contribution. "It's donations like this that help us continue the important work we do and ensuring that families have access to one of life's most basic needs."

For more information about the Center of Hope, visit www.fcsserves.org/program/center-of-hope, or Portage County Amateur Radio Services, visit www.portcars.org.



Photo (from left to right):

Lajoyce Harris, Program Manager of The Center of Hope, Mark Frisone, Executive Director of Family & Community Services, Paul Hyland, Treasurer, and Mike Szabo, Vice President of Portage County Amateur Radio Services.

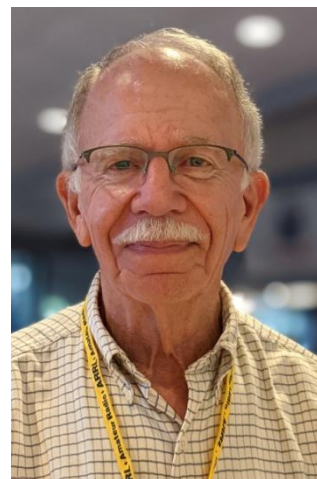
Portage County Amateur Radio Service - www.portcars.org



From the Great Lakes Division Director



Dale, WA8EFK
ARRL Great Lakes Division Director



Greetings, welcome to "Dale's Tales" for January 2022

OUR THOUGHTS have been with our friends in the Kentucky Section as they have dealt with the tragedy of the recent tornadoes. We wish them all the best through the continuing recovery effort.

RESOLUTIONS: How well I remember a discussion with my boss while I was still a teen, about New Year Resolutions. My argument was: "If it was worth a Resolution, it had to be worth Resolving NOW and not waiting for January 1". I have pretty well stuck with that, but I admit that at the end of each December, I look at what I had resolved to get accomplished throughout the past year and kinda renew those "instant resolutions". 2021 has been no different. I still need to level a few feet of sidewalk, my 75 meter dipole feed line needs a rework and my 160 meter antenna is still rolled up in the garage. And those are the delinquencies I will admit.

Other more recent items added to the current resolution list are a few things like boosting ARRL's relationship with local clubs, completing the development of a new ARRL Investment Management Structure and pressing for an upgrade for both Logbook of the World and the ARRL's Web Pages.

Without doubt, the forthcoming ARRL Board Meeting this January will bring some new and interesting challenges. Some changes to the Board composition will happen and as the Board elects our Officers, some new faces may show up in those roles. Most importantly, the Standing Committees will have new appointees, and those committees have the greatest effects upon those of us in the field. The Administration and Finance Committee, the Programs and Services Committee (PSC) will likely see changes in their composition and the Emergency Communications and Field Services Committee is all new as it takes over some of the former duties held by the PSC. While it is very rare for all members on any given committee to change, this turnover is appropriate as it brings new ideas and new processes to each committee.

HAMVENTION A Special not from the Hamvention Committee: The Hamvention organization needs your help to get the most deserving individuals and clubs nominated for the yearly awards to be presented in May at Hamvention 2022. It is time to get your Hamvention Awards nominations in.

If you know an individual or club that deserves recognition for their efforts on behalf of amateur radio and want to nominate them for a 2022 Hamvention award don't delay. Nominations for the Technical Achievement, Special Achievement, Amateur of the Year and Club of the Year close Feb. 15.

The Technical Achievement Award will be given to a selected amateur radio operator who has achieved technical excellence in the world of amateur radio. Examples are inventions, processes, discoveries, experiments and other technical accomplishments or any other outstanding technical achievement that contributed to amateur radio.

The Special Achievement Award will be given to a deserving amateur that made an outstanding contribution to the advancement of the radio art and or science. This award is usually given to a respected amateur who spearheaded a single significant project.

The Amateur of the Year Award is given to a ham that has made a long-term commitment to the advancement to amateur radio. This individual will have a history of ham radio contributions and has had a

dedication to service, professionalism and the advancement of the avocation of amateur radio.

The Club of the Year will be honored for clearly demonstrating their involvement in varied aspects of Amateur Radio for the greater good of their community and/or their nation.

Nomination forms, available at <https://hamvention.org/event-details/awards/>, are dedicated to the appropriate award nomination. At a minimum, each form should be completed with the information indicated but additional documentation is welcome. Please make sure that the nominating person is identified with a method to reach them in the case of questions from the nominating committee.

Forms may be submitted using the following methods: Email: awards@hamvention.org ; U.S. Postal Mail: Hamvention Attn: Awards Committee - Box 964, Dayton, OH 45401-0964 Thank you and please address any questions to awards@hamvention.org Hamvention, an official ARRL Sanctioned Event, will be held Friday-Sunday, May 20-22 2022 at the Greene County Fairgrounds and Expo Center.

Keep the date open on your calendar and plan to attend. This is your opportunity to see everything that is new in our great hobby, the newest products, the newest ideas and the latest from our Amateur Radio vendors. Hamvention also brings great speakers to their forum agenda, check the Hamvention web pages for full details. For more information visit www.hamvention.org

From the Great Lakes Division Vice Director



Scott, N8SY
ARRL Great Lakes Division Vice Director

Scott's Notes for January 2022



Happpppppy New Year to one and all!! I am so glad that 2021 is now officially behind us. I am hopeful that 2022 will be a much better and a more fun year than last. Have any of you gotten your “Jelly of the Month Club” jelly yet? I’m so looking forward to getting mine.

With all that has happened this past year it seems to just be a “bump in the road” compared to what happened on December 10th in Kentucky, when a violent, long-tracked tornado moved across Western Kentucky, producing severe to catastrophic damage in numerous towns, including Mayfield, Benton, Dawson Springs, and Bremen. A total of 76 persons lost their lives in this outbreak. The tornadoes ranged from EF-1 to EF-4 leaving a path of destruction in its wake. The hardest-hit areas include Mayfield, Dawson Springs and Bowling Green. Please, above all else keep those folks in the Kentucky Section that have lost so much in your hearts and prayers as we move forward into 2022.

Have you gotten your NIMS training completed yet? With winter coming on, now is a great time to get that all important training in when the weather is bad, and you just can’t find a good contest to get excited about. Why just sit and watch a boring TV show when you can be getting that ever so important training in. All of the classes that are suggested in the ARES Plan – including 300 and 400 are now available on-line. You may have to look around a bit to find the elusive 300 – 400 classes, but they are out there and just ready for you to sign up and get started on! Don’t be one of those folks that say “I don’t need this training because nothing ever happens here!” It does, and will, and the more we are prepared, the better it will be.

January is a busy month for contests. We start the month off (January 01) with Straight Key Night. On

January 2nd we have Kids Day and well as the RTTY Roundup. January 16-18 we have the January VHF contest as well.

Congratulations to the University of Michigan (UM) and to the Portage County Amateur Radio Service (PCARS) for their write-ups in the December issue of the ARRL Club News. Has your club done things that are newsworthy? The ARRL Club News is for radio clubs to show how they are working in the community and the hobby to advance amateur radio. If your club does a project, supports an event, does an EmComm activation or activates a park, Headquarters wants to hear about it. You can submit your newsletter article to: clubs@arrl.org

Ham Radio University is going virtual for 2022. Have you gotten registered yet for the 2022 HRU? It's being held in conjunction with the New York City/Long Island Section Convention on Jan 8th. Registration is required, so you'll need to act fast if you haven't already registered. A \$5 donation is being asked, if you can. The forums are featuring an ARRL forum, contesting, basic HF operating, ham radio logging, intro to DX'ing, how to learn and have fun with CW and many more. If you are interested, here's a link to their site: <https://hamradiouniversity.org/>

Dale and I are both getting ready for the upcoming Board meeting the week of January 17th in Newington. There's a lot on the agenda and you'll be hearing more about all of the activities from the meeting later.

That is going to do it from here this month. Stay safe and "Catch Me On The Air"!!!

From the ARRL Ohio Section Manager



Tom, WB8LCD
ARRL Ohio Section Manger



Here we go! 2021 is in the check out lane. Couldn't make me happier. 2022 is picking up speed on the on-ramp. Can't stand still, but it's scary moving forward. Let's hope only good things happen this year to make up for the past two.

I'm going to jump into the new year thinking about Amateur Radio FUN! This is a great hobby with lots of fun stuff to do. No excuses – make this your best year ever for Ham Radio. The way you do that is by participating in the activities of Ham Radio - check into your local nets, work some DX, activate some parks, islands, counties, rare grid squares, learn (or re-learn morse code), build some projects, experiment with antennas, make some satellite contacts, run a special event station, participate in contests, improve your station and improve your skills. I could go on for at least a page or two, but I think you get the idea! (Seriously, I could.)

You might think to yourself, I'm just a new ham, a young ham, an old ham -whatever. The best way to get involved with all of these activities is to do it with a group. A club. As you gain knowledge and move forward in the hobby you will be able to do more on your own, while at the same time becoming more valuable to the group by being able to share your experience. Being sheltered here in NE Portage County for the past too many years, I really didn't think you could do any better than my home club – PCARS. If there's one thing I've learned since getting involved with the Ohio Section, it's that there are a lot or really good clubs to choose from in the Ohio Section. In fact, you might want to belong to more than one club.

As we move into 2022 I'll be promoting Amateur Radio Fun – but especially as it occurs in the club environment. With that, I want to welcome a new club into the Ohio Section: ATARA-W8ATR – All Things Amateur Radio Association. From Jarrod – KE8MBL:

All things Amateur Radio Association (ATARA) W8ATR is a brand new ARRL affiliated club started in June of 2021. ATARA is a family-oriented radio club set in the foothills of Southern Ohio. Our mission is to have fun with all aspects and modes of operation for amateur radio. Current club members enjoy things such as DX-ing, contesting, off-grid operations, project builds, etc.; but we welcome you to bring new knowledge to our club and share it with us.



Our Off-Grid Radio Team is an integral part of the ATARA club and continually strives to reach for and maintain a state of readiness for emergency communication service. Our Off-Grid Radio Team is organized into small units, all training together as a cohesive larger unit year-round; thus, becoming proficient in the use of our personal equipment, building and refining systems, honing skillsets, all while developing relationships and camaraderie among like-minded radio operators.

ATARA is focused on giving back to our community. We do this through volunteering for events and supporting youth educational efforts such as our local after school program.

Check us out at <https://atara-w8atr.fun>

Please Join me in welcoming ATARA to the Ohio Section as an ARRL Affiliated club! If you see them (or their members) please set them know that we all exist to help each other get the most out of the hobby and offer your help to them where you can.

PCARS Patches & Stickers



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

Put the patch on your hat, your shirt, your jacket and show off that PCARS logo!! The patch is about 3". The

embroidery on the white patch is in Red, Black

and Blue. Cost for a patch is only \$2.00 each and can be obtained at any PCARS meeting. There



are 2 types of stickers available - a 4" x 6" oval and a 3" x 10" bumper sticker. Stickers are \$1 each. Show your pride in PCARS - Wear a patch, use the stickers! See the club Treasurer: **Greg, KA8TOA** or e-mail him at: Treasurer@portcars.org



Ohio VHF+ Simplex Contest

This six hour contest is coming up **January 8th - 10am - 4pm EST**. You can learn about it at www.ohsimplex.org. There seems to be a few stations registered already (but registration is not required).



If you are interested in Emergency Communications, this is something especially for you. This is a prime opportunity to check and verify your VHF simplex capabilities. After all, how do we know that repeaters will continue to function after an emergency strikes? Simple; we don't! Test your gear now, not during an emergency!

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.

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,

President's Award 2021 - Mike, KB8TUY

Nick, AC8QG
PCARS President



After the meal at the December Christmas Dinner meeting, I was happy and privileged to present the PCARS President's Award.

Mike, KB8TUY became the first two-time winner of the award!

His contributions to PCARS have been invaluable, not just in 2021 but consistently for many years.

Thank you, Mike, for all that you do for PCARS!

The past recipients of the PCARS President's Award:

- 2006 - KC8RJR Errol Jordan
- 2007 - KD8EPA Dan Porcase
- 2008 - N8EQJ (K8IV) Ed Polack and WB9LBI Bill Fraedrich
- 2009 - KB8TUY Mike Ryan, KD8LDY (NR8W) Russ Williams and KD8FLZ Mike DiCarro
- 2010 - KD8VT James Andrews and K8SRR Steve Randlett
- 2011 - K8CAV Rick Kruise
- 2012 - K8FEY Bob Hewett and N8QE Bob Hajdak
- 2013 - KB8UUZ Tom "Parky" Parkinson
- 2014 - KB8AMZ Terry Morris, AC8NT Jim Wilson and KD8WZS Zeb Smith
- 2015 - AC8QG Nick Wagner and KB3GXB Jennifer Andrews
- 2016 - KB8JFF Dick Ward and K8MSH Mark Haverstock
- 2017 - KD8ICP Tim Gehri, N8BI Jack Comer and WA8GCF Dave DeSimio
- 2018 - WB8LCD Tom Sly
- 2019 - KE8JUZ (AD8FQ) Ben Wagner
- 2020 - KC8FQV Mark Studer, N8AMY Amy Leggiero and W8PT Chuck Patellis
- 2021 - KB8TUY Mike Ryan.



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

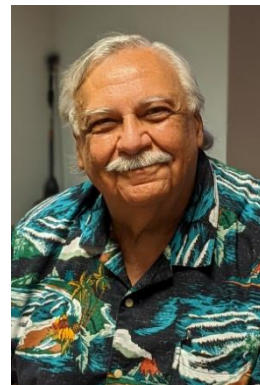


Happy New Year



FYAO 2021 Contest Results

Chuck, W8PT
FYAO Chairman



This is one activity that PCARS has done **every year** since we started and we did not want to skip a year (that's why the 2021 FYAO was in December due to COVID last February).



Our delayed Freeze Your Acorns Off QRP Event is now history. I'd like to thank all those who came out to support the club and specifically, those members who braved the terrible snow storm that occurred. *Oh yah, we didn't have a snow storm.* In fact we didn't have snow and added to that, it was only cold enough so everyone had to wear a jacket. Well, maybe when FYAO 2022 happens, Mother Nature will take care of making it right.

All kidding aside, we had a very good time and we had close to 30 members and visitors show up. Of those present, there were 5 stations set up. And there was plenty of tasty food to go around. I know that if you went home hungry, it was your own fault.

Here are the results of our signature QRP event for 2021:

First Place: K8PRC (Scott N3JJT, Tony KD8BBK, John WG8X and Mike KD8ENV) with 3733 points

Second Place: Ben, AD8FQ with 421 points

Third Place: Brandon, KE8ARB with 339 points

Fourth Place: Bob, KD8CGH with 265 points

Fifth Place: K8BF operated by Bob, N8QE with 72 pts. Bob operated from inside the shelter and the noise level for his station was surprisingly high. But he stuck at it - kudos to Bob.

Our Contest Within Our Contest - namely the **Best Recipe Cook-Off** was won by:

First Place: Amy, N8AMY for her Beef Bourguignon

Second Place: John, WG8X with his Tasty Meatballs.

Third Place: Tom, WB8LCD with his famous Peach Cobbler

Fourth Place: Agnes, KE8LWP and Bernadette, KE8LWO. They tied for 4th place with a very tasty Cheeseball and a Spicy Chili Cheese Dip.



Let's count on having a great turnout and some delicious food for our 2022 FYAO in February.



FYAO - December 2021



Goals for 2022

John, WG8X



The author, Rachel Hollis once said that “A goal is a dream with its work boots on”.

I had a bunch of (Ham Radio) goals for this year. Mostly, I wanted to get my Kilo award at a number of local parks. A Kilo is awarded by POTA (Parks On The Air) when you submit logs showing 1000 contacts from a POTA location. Sound tough? Trust me, it is. Once I decided to knock these goals out, I kept at it till they were accomplished.



In the last month, I finished up my Kilo award at First Ladies National Historic Site in Canton. This was a tough one since the location has tall buildings on two sides, and it's sometimes difficult to get a decent signal out.



A few days later, I finished up a Kilo at Lake Park State Wildlife Area near alliance. That took daily visits for 6 days straight, but it's done.



I'm impressed by all the people in the POTA group who made it a point to watch for me, and give me a contact just to help me towards my goal.



A couple of my friends have set a goal to contact all POTA sites in Ohio. Now that is a goal! There are 271 sites in Ohio. One of them; Fred, KW4FM is down to only 105 sites needed to finish the state. Will he finish? I bet he will; especially with the help of a lot of friends here in Ohio & the surrounding states. A lot of us will do our part to help them accomplish their goal.

Most of my goals (resolutions) for 2022 involve Ham Radio in some way. Others are more normal; exercise more, eat less, etc.

But, my big goal for 2022 is to finish my “Activated all Ohio State Parks” award which is sponsored by Tom, WB8LCD. I've been halfheartedly working towards this award for a few years, but am determined to get this one wrapped up. Kudos to Tom for sponsoring this award, and its twin, the “Worked all Ohio State Parks” award.

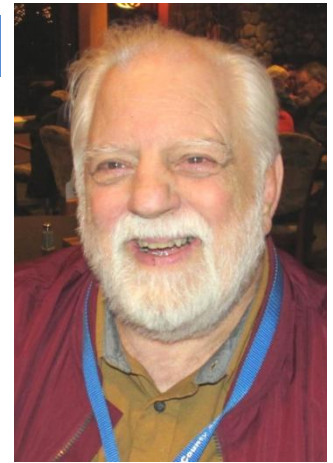
So how about you? What are your Ham Radio goals for 2022? Work more CW? Maybe give QRP a try? Or maybe it's time to finish that antenna project. The important thing is to not put them off.

I hope to see you on the air, or at a club meeting, or maybe at a park somewhere.



Memories of the Montgomery Radio Catalog

Larry, N8FTP



About half a century ago, when I'd come inside from playing fox and hounds with my brother or neighbor, I'd be well chilled and I'd 'crack' the thermostat to bring on the oil-fired furnace [hotter than blazes]. I'd sit on the floor with my back to the big 'ol register on the wall and let the heat seep in while I read the Sears Christmas catalog. How else was I going to know what the newest rolling stock was? My friends all seemed to have Lionel layouts, but I had American Flyer ... none of that three-rail stuff for me!

Those memories all came flooding back when I discovered, in cleaning and moving stuff around, a catalog. Not Just any catalog [no, not a Sears Christmas catalog] but rather a Montgomery Ward Radio Equipment catalog photo copy I recalled ordering some years back, all 50 pages ... and not just any photo copy, but an elderly one copied on both sides of the page [someone had access to a very heavy-duty copier of that time]. What a nostalgia trip! I'd guess the catalog dates to the early 1920s or so, back when Atwater-Kent was a recognized and famous name. [I have seen an archive item of a 1924 Montgomery Ward radio catalog which shows 2 additional, more advanced large console model radios for upwards of 500 dollars ... a really rich person's extravagance at about 2,500 of today's dollars.]

If you ‘do the math’ on this radio, The Grand, the approximate 21st century cost would be about \$5 00 ... but,

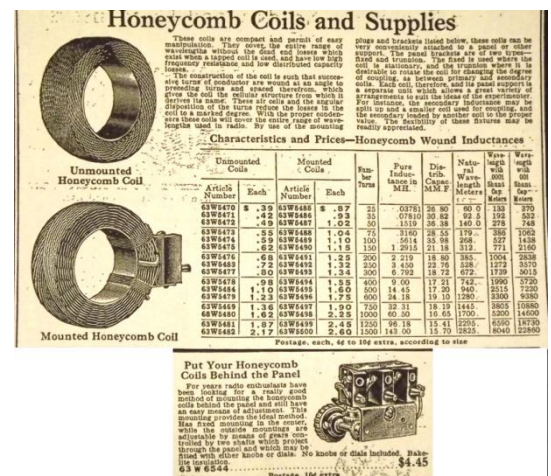
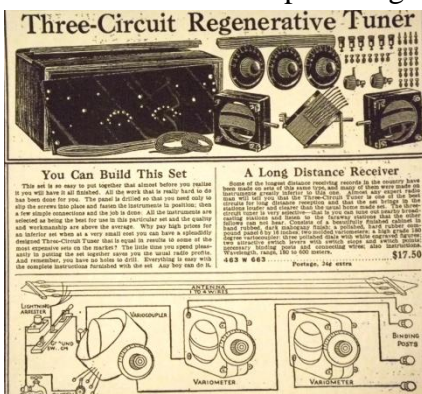


hay! It has batteries, antenna
wire and insulators ...
everything! Still, a fairly
hefty price!

Wonder of wonder, you can also get a battery charger for your radio 'A' battery with which you could recharge from the mains, but not the lower current 'B' supply. Of course, not everyone had electricity back then and would use only dry cells.



They have all sorts of parts if you want to build it yourself [I'm not certain how these parts might work, but there are diagrams to help] ... the first of the kits, maybe.



They also sold the tools you'd need to build your radio as well parts and 'sub assemblies'. Oh, and notice the "plug" on the electric drill ... just remove the light bulb and screw in your drill. [!?!]



You could also get 'on the air' from Montgomery Ward catalog with spark gap transmitters [FCC favorite], motor-generators and dynamotors. I'm not certain how one would tune the spark gap to frequency, but there was some sort of tuning was done back then.



The catalog also lists the stations broadcasting at the time which you could listen to. Cleveland was listed with 2 stations ... one of which is still around, WHK at 300 meters [1000 kc] and another WJAX at 390 meters [770 kc]. There seem to have been about 22 stations in Ohio then with Columbus having the most at 5.

I'm struck by how far the human kind has come in just about 100 years ... when my father was a boy, radio was little or nothing socially and scientifically/engineeringly ... mostly dream fiction ... and today we have software defined all band transceivers that would almost fit in your shirt pocket with CPUs and integrated circuits, and the ubiquitous cell phone, no less ... pretty good stuff to be happy with and/or grateful for this holiday season. Happies!! and 73

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.



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

will check off your name when you get your **FREE** PCARS coffee cup.



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

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





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: 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]

FOR SALE: Astron RS-50 power supply. :ole new - 50 Amp supply, no meters - \$200.00

Contact: Richard, KA8OAT - phone 330-506-7068 [03/02/22]

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. **\$1080.00 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. \$675 **Kenwood TS-820** HF Transceiver in excellent condition with manual. VFO-820, SP-820 and MC-50 mic and connecting cables included. \$ 585 **Heathkit SB-1400** HF transceiver and SBA-1400 speaker/ps in mint condition. \$200 **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. \$400. **Heathkit HO-10** Monitor Scope in good condition. \$ 45. **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. \$100 **Siltronics (SWAN) FS-301** SWR meter with 1000w and 20w scales in good condition. \$45 **Radio Shack Pro-2044** Scanner. \$30 **Royce 2-100** Field Strength & SWR meter. \$15 **Midland 23-135B** Field Strength meter. \$10 **Lafayette Telsat SSB-75** SSB and AM transceiver. \$45 **Radio Shack HTA20** 2 meter mobile transmit amp. \$55. **DSI-5500** 50hz-512mhz frequency counter. \$55 **MFJ-260C** dummy load. \$40 **MFJ-1702** 2 position coax switch. \$35 **MFJ-945D** Mobile tuner. \$80 **MFJ-945E** Mobile tuner. \$115 **MFJ-949E** Deluxe Versatuner II. \$115 **"On the Air"** sign Large backlit. \$25 **RCI-5054** 6m SSB transceiver. \$170 **J-38** style straight key mounted to heavy base. \$20 **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: Ken Starcher at 330-475-2630

Leave a message if I am not available. All proceeds go to Pam Tenan. [03/02/22]

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.



Hamfest Calendar



Here is the current listing of local hamfests. Please note that all are subject to change, so stay current by checking the sponsoring club's web page before making your travel arrangements.

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03/13/2022 - The Northern Ohio Amateur Radio Society Winter Hamfest - Northern Ohio Amateur Radio Society
- **Location:** Lorain County Community College - 1005 N. Abbe Rd. - Elyria, OH 44035 - **Website:**
<http://www.wp.noars.net/hamfests/winter-hamfest/> - **Public Contact:** Carl, W8KRF 3821 West 152nd St. Cleveland, OH 44111 Phone: 216- 256-9624 - **Email:** winterhamfest@noars.net

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03/20/2022 - Toledo Mobile Radio Association - Location: Owens Community College- 30335 Oregon Road - Perrysburg, OH 43551 - **Website:** <http://tmrahamradio.org> - **Public Contact:** Brian Harrington, WD8MXR - 4463 Holly Hill Drive Toledo, OH 43614 - Phone: 419-385-5624 - **Email:** wd8mxr@gmail.com

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04/09/2022 - Sixty-Sixth HAMFEST, Electronic and Computer Show - Cuyahoga Falls Amateur Radio Club, Inc. - Location: Emidio & Sons Party Center - 48 E. Bath Road - Cuyahoga Falls, OH 44221 - **Website:** <https://sites.google.com/cfarc.org/cfarc/hamfest> - **Public Contact:** Bruce Ferry, AK8B - 2907 Lee Rd. Silver Lake, OH 44224 - Phone: 234-206-0270 - **Email:** hamfest2022@cfarc.org

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05/20/2022 - Dayton Hamvention® 2022 - Dayton Amateur Radio Association - Location: Greene County Fairgrounds and Expo Center - 120 Fairgrounds Road - Xenia, OH 45385 - **Website:** <http://hamvention.org> - **Public Contact:** Henry Ruminski, W8HJR - PO Box 44 Dayton, OH 45401-0044 - Phone: 1-937-232-9272 - **Email:** henry.ruminski@wright.edu

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07/09/2022 - Intercity Amateur Radio Club - Mansfield - Location: Richland County Fairgrounds - 750 North Home Road - Mansfield, OH 44901 - **Website:** <https://iarc.club/> - **Public Contact:** Danny Bailey , W8DLB - 70 Euclid Street Shiloh, OH 44878 - Phone: 419-541-8557 - **Email:** W8dlb113@gmail.com

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09/25/2022 - The 47th Annual Cleveland Hamfest And Computer Show - Hamfest Association of Cleveland - Location: Cuyahoga County Fairgrounds - 164 Eastland Road - Berea, OH 44017 - **Website:** <http://www.hac.org> - **Public Contact:** Glenn Williams, AF8C - 4134 Stoney Ridge Rd. Avon, OH 44011 - Phone: 440-934-5566 - **Email:** af8c@ARRL.net

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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

January	
6	N8WCP
13	K8CAV
20	N8QE
27	KD8WCK

February	
3	K8YLK
10	KA8TOA
17	N8QE
24	KE8BWA

March	
3	N8WCP
10	WB8LCD
17	K8YLK
24	KE8BWA
31	KD8WCK

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

Flex Net

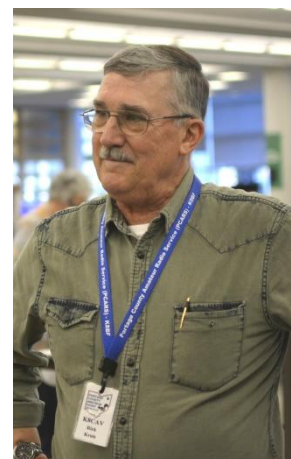
Rick, K8CAV
Flex Net Coordinator

Everyone participating in our last PCARS Flex Net had a great time! Band conditions on 10 meters were quiet and almost all signals were loud and clear. Thanks to Greg KA8TOA, Brandon KE8ARB, Mike KB8TUY, Dan N8FUM, Mike N8WCP, and Ken W8GPN for checking in and sharing some good times.

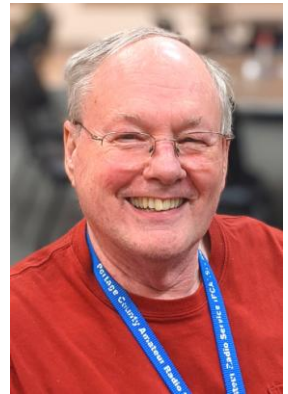
Any PCARS member can use the Flex Net in pursuit of the PCARS A to Z award (see <https://www.portcars.org/wp/club-info/club-activities/pcars-a-z-award/> for details), and to save postage bucks, bring your QSL cards to the **PCARS Squirrel Bureau** at the club site.

The next Flex Net will take place on Wednesday January 12th at 8:00 PM on 15 meters phone. Look for us on 21.285 MHz +/- QRM on USB.

And for all of you retro digital aficionados, stay tuned for a RTTY Flex Net to be held in the very near future, on 10 meters so our Technician class licensees can join in some HF digital fun.



Jim, AC8NT



Transmission Lines-Part 2

Last month we discussed some properties of transmission lines. This month we will discuss how the length of a transmission line can affect the impedance seen by the signal generator/transmitter. Often new hams install their first antenna and just grab a length of coax to connect it to their rig. Most of the time this works. However, understanding how length makes a difference can prevent sad times in the shack. Let's start with some definitions.

Input Impedance (Z_{in})

We will be looking at the impedance seen by our rig (input impedance) of our antenna system (our load). This impedance is a function of the load, the length of the transmission line, and the characteristics of the transmission line. A model of this system is shown in Figure 1 where Z_L is the load impedance, Z_0 is the characteristic impedance of the transmission line, v_p is the velocity factor of the transmission line and Z_{in} is the impedance seen by our generator or transmitter.

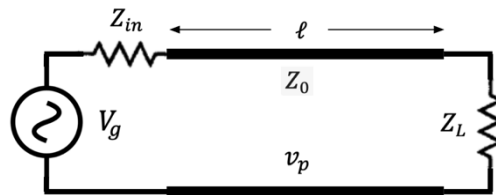


Figure 1

Characteristic Impedance of Transmission Line (Z_0)

As you may recall the characteristic impedance of our transmission line is specified as a real (resistive) value. Typical values are 50, 75 ohms for coax and 300, 450 and 600 ohms for parallel transmission lines (ladder line and twin lead).

Transmission Line Length (l)

When we speak of the length of a transmission we are talking about the electrical length in units of wavelength. The wavelength of a given frequency in free space is $\lambda = c/f$, where λ is the wavelength usually in meters, c is the speed of light (300,000,000 meters per second) and f is frequency in hertz. If we look at 7.5 megahertz, the wavelength in free space is 40 meters. However, RF travels much slower in a transmission line. The amount slower is referred to a velocity factor. To calculate the electrical length of a transmission line you must multiply the wavelength in free space by the velocity factor of the transmission line. Let's assume you are using RG-8X (Belden 9258) cable. The characteristic impedance is 50 ohms, and the velocity factor is .82. The wavelength of 7.5 megahertz in the coax is the free space value multiplied by the velocity factor [$\lambda = v_p \left(\frac{c}{f} \right) = .82(300,000,000/7500000)$] which computes to 32.8 meters. **Key Point: When we speak of the wavelength of a frequency in a transmission line, we are using the wavelength in free space corrected by the velocity factor ALWAYS.** One of the most common errors is cutting a transmission line too long because the velocity factor was not considered. One other point to note when cutting a transmission line is the connector lengths must be included in the length. At HF this is normally not an issue but at UHF and up, it must be considered.

Load (Z_L)

The load is typically the impedance of our antenna. This is a complex value with both a resistive (real) component and a reactive (imaginary) component. As an example, the half wave dipole has an impedance of $73+j42.5$ Ohms.

Equation 1 shows the input impedance as a function of the length of the transmission, load and characteristic impedance of the line. There are two forms of the same equation. The form using sine and cosine is often easier to use than the tangent form.

$$\begin{aligned} \text{Equation 1} \quad Z_{in} &= Z_0 \left[\frac{Z_L \cos(\beta\ell) + jZ_0 \sin(\beta\ell)}{Z_0 \cos(\beta\ell) + jZ_L \sin(\beta\ell)} \right] \\ Z_{in} &= Z_0 \left[\frac{Z_L + jZ_0 \tan(\beta\ell)}{Z_0 + jZ_L \tan(\beta\ell)} \right] \\ \beta\ell &= \frac{2\pi}{\lambda} \ell, \quad \ell = \text{length in wavelengths} \end{aligned}$$

Let's look at a couple of examples. First, assume you have a dipole antenna with an impedance of $73+j42.5$ at the end of a 50-ohm Belden 9258 coax cable that is $1/6$ of a wavelength long (remember electrical wavelength). The impedance measured at the end of that cable would be $44.1-j37.1$. The impedance changed from inductive to capacitive just by adding the coax cable. Second, assume you have a perfect 50-ohm load with the same cable. If you plug in those values, you will find the input impedance is 50-ohms regardless of the length of the cable. **If the load matches the transmission line the input impedance will always equal the load impedance. A match at the antenna removes the effect of cable length. It satisfies a rule of engineering that says fixing an issue as close to the source as possible is always the best solution.**

Consider a few special cases.

Case 1 - Length of line is very short. This will produce an input impedance equaling the load impedance. This only makes sense. It is called a limit case. Equation 2 shows this case.

$$\begin{aligned} \text{Equation 2} \quad \beta\ell &= \frac{2\pi}{\lambda} \ell \approx 0 \\ \cos(\beta\ell) &= \cos(0) = 1 \quad \text{and} \quad \sin(\beta\ell) = \sin(0) = 0 \\ Z_{in} &= Z_0 \left[\frac{Z_L \cos(\beta\ell) + jZ_0 \sin(\beta\ell)}{Z_0 \cos(\beta\ell) + jZ_L \sin(\beta\ell)} \right] \\ Z_{in} &= Z_0 \left[\frac{Z_L(1) + jZ_0(0)}{Z_0(1) + jZ_L(0)} \right] = Z_L \end{aligned}$$

Case 2 - Length of line is $1/2$ a wavelength long. This will produce an input impedance equaling the load impedance. If the coax you use is a half a wavelength long, you will see the antenna impedance at the end of the cable. This is often used to test antennas that are mounted in tough to get at places. Readings taken at ANY multiple of $1/2$ wavelength will be equal to the antenna impedance. Equation 3 shows this condition. Only the length less than a half wavelength will affect the impedance.

$$\begin{aligned} \beta\ell &= \frac{2\pi}{\lambda} \frac{\lambda}{2} = \pi \\ \cos(\beta\ell) &= \cos(\pi) = -1 \quad \text{and} \quad \sin(\beta\ell) = \sin(\pi) = 0 \\ Z_{in} &= Z_0 \left[\frac{Z_L \cos(\beta\ell) + jZ_0 \sin(\beta\ell)}{Z_0 \cos(\beta\ell) + jZ_L \sin(\beta\ell)} \right] \\ Z_{in} &= Z_0 \left[\frac{Z_L(-1) + jZ_0(0)}{Z_0(-1) + jZ_L(0)} \right] = Z_L \end{aligned}$$

Equation 3

Case 3 - Length of line is $\frac{1}{4}$ wavelength long. This produces a very interesting value. If your load is a short, you will see a very high impedance. If your load is an open, you will see a short. A quarter wavelength transmission line can be used to solve a variety of issues. Equation 4 shows this example. If you plug in a load Z_L that is a short, the input impedance will be very large. If you plug in a load that is an open, the input impedance will appear as a short. In a future article we will show several uses for this quarter wave case.

$$\begin{aligned}\beta\ell &= \frac{2\pi\lambda}{\lambda} \frac{\lambda}{4} = \frac{\pi}{2} \\ \cos(\beta\ell) &= \cos\left(\frac{\pi}{2}\right) = 0 \quad \text{and} \quad \sin(\beta\ell) = \sin\left(\frac{\pi}{2}\right) = 1 \\ Z_{in} &= Z_0 \left[\frac{Z_L \cos(\beta\ell) + jZ_0 \sin(\beta\ell)}{Z_0 \cos(\beta\ell) + jZ_L \sin(\beta\ell)} \right] \\ Z_{in} &= Z_0 \left[\frac{Z_L(0) + jZ_0(1)}{Z_0(0) + jZ_L(1)} \right] = \frac{Z_0^2}{Z_L}\end{aligned}$$

Equation 4

Examples

Since at a length of $\frac{1}{2}$ wavelength your input impedance is equal to the load (Case 2), every multiple of $\frac{1}{2}$ wavelength will also get an input impedance of the load. To find the effect of a coax cable first determine the electrical wavelength for the frequency and cable of use. Divide by two for $\frac{1}{2}$ wavelength and determine how many $\frac{1}{2}$ wavelength units make up the cable. The effect of the cable is only due to the fraction less than $\frac{1}{2}$ wavelength. Here is an example of examples.

7.5 MHz, 100 feet of Belden 9258 RG-8X 50-ohm coax with a velocity factor of .82. We also will assume the antenna is a dipole with an impedance of $73+j42.5$. What impedance will my transmitter see:

Compute wavelength in cable:

$$\lambda = v_p \left(\frac{c}{f} \right) = .82 \left(\frac{300,000,000}{7500000} \right) = 32.8 \text{ meters}$$

Compute $\frac{1}{2}$ wavelength

$$\frac{\lambda}{2} = 32.8 / 2 = 16.4 \text{ meter}$$

Compute $\frac{1}{2}$ wavelength in feet (1 meter = 3.28 feet)

$$\frac{\lambda}{2} = 16.4 \cdot 3.28 = 53.8 \text{ feet}$$

Dividing the cable length by half a wavelength and eliminating the whole portion of the number gives us the fraction of a half wavelengths left in the cable. Multiplying by .5 gives us the residual wavelength that will affect the impedance

$$\begin{aligned}100 \text{ ft} / 53.8 \text{ ft} &= 1.85 \\ .85 \cdot .5 &= .425 \text{ wavelengths}\end{aligned}$$

Substituting into our transmission line equation gives us an input impedance of $33+j28$. This produces a VSWR that is very close to that of the dipole. No better or worse.

As you can see the length of a transmission line can affect the impedance seen by our rigs. It is a good idea to always know the length of feed line you are using and all its characteristics before installation. It can allow you to determine the possible source of a problem.

I have built a model spreadsheet for doing these calculations. If interested in that workbook, let me know.



From the ARRL

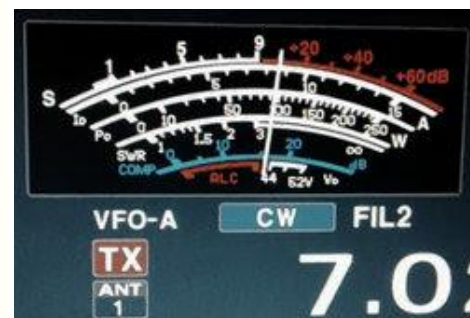
New Low-Power Limit for ARRL HF Contests Goes into Effect on January 1, 2022

ARRL has set a new standard for what counts as low power for ARRL-sponsored HF contests. The new limit is 100 W, which is down from the 150 W limit that has been permitted in some events, including the ARRL November Sweepstakes.

With the exception of ARRL Field Day, this change goes into effect on January 1, 2022, for all ARRL-sponsored HF contests, as well as the [IARU HF World Championship](#).

This change has been implemented to standardize low-power categories within the contesting community. However, on a more practical level, the typical modern HF transceiver has a maximum power output of 100 W.

For more information, [contact](#) the ARRL Contests program. -- *Thanks to The ARRL Contest Update*



Intrepid-DX Group Announces Youth "Dream Rig" Essay Contest Winners

On December 1, [Intrepid-DX Group](#) President Paul Ewing, N6PSE, announced the prize recipients of the second annual Youth "Dream Rig" Essay Contest. Ewing said all essays received "were all unique in thought and very well articulated." Extra points were given for correct grammar, punctuation, and spelling, he said.

"Most of the essays gave unique perspectives on how to reach out and connect with the youth of today. We will be sharing those ideas in subsequent postings," he said.

The first-place winner and recipient of an Icom IC-7300 transceiver is Silas Davis, W3SED. Second-place winner Olivia Lee, KD2UYX, and third-place winner Isaac Schmidt, K6IAS, will each receive Yaesu FT-65R radios. "Having read your many essays this week, we can tell you that our youth are full of great ideas, and they are brimming with enthusiasm to keep our hobby alive well into the future," Ewing concluded.

He thanked Amateur Radio Digital Communications ([ARDC](#)) for supporting this year's prizes.



3Y0J DXpedition to Bouvet Island Updates its Progress

Two new team members of the upcoming 3Y0J Bouvet DXpedition team have come aboard to replace, in part, three operators who are unable to make the trip -- Sandro Nitoi, VE7NY; Laci Radócz, HA0NAR, and Dimtry Zhikharev, RA9USU. Joining the 3Y0J crew will be Cezar Trifu, VE3LYC, and Otis Vicens, NP4G. A third replacement has not yet been named.

"Their experience will be a great addition to the team," the DXpedition team said in a media release announcing the personnel changes and updating the DXpedition's planning process.

Ken Opskar, LA7GIA; Rune Øye, LA7THA, and Erwann Merrien, LB1QI, are sharing leadership duties for the 2023 DXpedition.

The 3Y0J team has also been busy selecting the gear that they will need once they reach the subantarctic island. Arctic Lavvo of Norway will supply the team with its Venor Gamme tent. The tent, which stood up to winds of 40 meters per second (nearly 90 MPH) when it was tested in extreme conditions on Svalbard, will be improved further by adding extra guying levels and by strengthening the aluminum frame, the 3Y0J DXpedition team explained.



Silcom of South Africa will supply custom masts for the Yagi antennas that are rated for the Bouvet environment. The aluminum mast will be used for the tribanders, while the smaller, galvanized steel mast will support dual-band Yagis.

"We're taking preparation to the next level by procuring a [Zodiac Milpro inflatable boat]," the team continued. "The strategic decision to buy the [boat] will enable us to train [for] the critical beach landing in Norway. The DXpedition team said it's still \$160,000 short of its funding goal.

Follow the team's plans via its [website](#) or the 3Y0J [Facebook page](#). View Bouvet Island from above in a short [YouTube video](#). Read [an expanded version](#).

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ARRL Contest Rules Changing

ARRL has been migrating to new rule sets that exist as a single document. As the rule sets are replaced, the older "General Rules," "Rules for Contests below 30 MHz," and "Rules for Contests above 30 MHz" documents will sunset. Complete rules are available as a PDF on individual contest pages. -- *Thanks to ARRL Contest Program Manager [Paul Bourque](#), NISFE*

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A new release of WSJT-X is available.

The WSJT-X development group -- Joe Taylor, K1JT; Steve Franke, K9AN; and new member Nico Palermo, IV3NWV -- have announced the release of WSJT-X 2.5.3. This new release includes a feature of special interest to users participating in the ARRL January VHF Contest (January 15 - 17). This new feature is an enhanced macro facility for text messages that is aimed at making it easier to ask another station to move to another band. This feature is described briefly in the updated [WSJT-X User Guide](#). Installation packages for WSJT-X 2.5.3 are available on the [WSJT-X website](#).

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Special WRTC 2022 call signs will be active starting in January. The World Radiosport Team Championship (WRTC) 2022 Organizing Committee has announced that more than 100 Italian radio amateurs will be activating special WRTC call signs, one for each Italian call district, starting on January 1, 2022, and concluding on July 10, 2022. A [first-time-ever award](#) will be available promoting WRTC 2022, which has been postponed until 2023. Look for these call signs to be active during some contests, concluding with the 2022 [IARU HF World Championship](#). Each participant's contact totals and award-hunter scores will be displayed on a [real-time leaderboard](#). Participants can download the award in digital format. -- *Thanks to The ARRL Contest Update*

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ARRL Author, QST Technical Editor Joel Hallas, W1ZR, SK

11/29/2021

Retired *QST* Technical Editor Joel R. Hallas, W1ZR, of Westport, Connecticut, died on November 25. An ARRL member, he was 79. Hallas retired in 2013 but remained active as a contributing editor, handling the popular “The Doctor is In” column in *QST* and the podcast of the same name. He had been a radio amateur since 1955.

“Joel was not only brilliant, he shared that brilliance with the ham radio community in a way that taught innumerable hams things they needed to know in order to experience success and enjoyment,” said ARRL Publications and Editorial Department Manager Becky Schoenfeld, W1BXY. “He was a fine mind, a generous mentor and colleague, and a consummate gentleman. He will be missed.”



Retired ARRL Publications Manager Steve Ford, WB8IMY, recalled Hallas as “an iconic figure in amateur radio media as a prolific author of *QST* articles and ARRL books, and even in the audio podcast community. I greatly enjoyed being Joel’s sidekick for the popular ‘Doctor is In’ podcasts. He had a wry sense of humor both on and off the microphone and a remarkably stoic attitude toward the illness that would eventually claim his life.”

Hallas authored six books about communications technology, published by ARRL. His titles include *Basic Radio*; *Basic Antennas*; *The ARRL Guide to Antenna Tuners*; *Hamspeak*; *The Care and Feeding of Transmission Lines*; *Understanding Your Antenna Analyzer*, and *The Radio Amateur’s Workshop*.

Hallas earned his bachelor’s in electrical engineering from the University of Connecticut and an MSEE from Northeastern University. He previously had worked for Raytheon as a radar systems engineer and for GTE as a nuclear weapons effects (electromagnetic pulse) analyst and as a satellite and terrestrial communications systems engineer, as well as for IBM and AT&T. He also taught at the college level. He enjoyed sailing, as described in the July 2009 issue of *QST*. He and his 24-foot sloop *Windfall* — fully equipped with a ham station that used the insulated backstay as an HF antenna — graced the front cover.

Survivors include his wife of 58 years, Nancy, W1NCY.



Digital Special Interest Group

Rick, K8CAV
Digital SIG Coordinator



Due to the increased risks posed by the COVID-19 variants, and because I have to be an Mansfield every week from Tuesday morning through Wednesday afternoon, the in-person monthly **Digital Special Interest Group meetings at the club site are canceled until further notice**. The meeting will instead take place on ZOOM. Please use the link below to attend the ZOOM meeting.

Join Zoom Meeting:

<https://us02web.zoom.us/j/88355094567?pwd=ZzRvd1hmQWNhYlZEcGFodVhuNlNiQT09>

Meeting ID: 883 5509 4567 Passcode: PCARS2022

This month we'll have a presentation on RTTY using fldigi. We'll also be discussing how to optimize bandwidth on your rig for RTTY operations.

As always, we'll make time to help out with any questions or issues you may have regarding digital communications by radio. Many of our members have brought their computers, radios, and other related equipment to the meetings to get help with setting up or troubleshooting their systems so feel free to do the same when having problems.

Portable Ops Special Interest Group

John, WG8X
Portable Ops SIG Coordinator



HI everyone, After a Christmas break, the portable operations SIG will be back this month.

We're talking about doing a Saturday Field Trip to a local park in 2022. The site we discussed is at Cuyahoga Valley National Park. We'll be talking more about that this month, as well as entertaining your show & Tell, and questions.

Did you get any new gear for Christmas? Bring it along. We'll be meeting on January 11th, at 7PM at the club site (705 Oakwood St, Ravenna).

We'll also be running via Zoom. Here's the link:

Join Zoom Meeting

<https://us02web.zoom.us/j/89732195744?pwd=cldtZmxMcmFqQndhQWtJN0s2NUNnUT09>

Meeting ID: 897 3219 5744 Passcode: PCARS2022

One tap mobile +13126266799,,89732195744#,,,*016163323# US (Chicago)
+19292056099,,89732195744#,,,*016163323# US (New York)

Dial by your location

+1 312 626 6799 US (Chicago) +1 929 205 6099 US (New York) +1 301 715 8592 US (Washington DC)

+1 346 248 7799 US (Houston) +1 669 900 6833 US (San Jose) +1 253 215 8782 US (Tacoma)

Meeting ID: 897 3219 5744

Passcode: 016163323

Find your local number: <https://us02web.zoom.us/j/kcFjqhiKnZ>

Charlie the Tuner's HF High-Lites

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



Greetings DXers

Charlie the Tuner's DX High-Lites – January 2022

HAPPY NEW YEAR! I hope that you all received at least one thing from Santa that you can use in our wonderful hobby of Amateur Radio. I received a couple of subscriptions to my favorite HAM magazines and also an early Christmas present of an EndFedz antenna.

Here's hoping that 2022 will be a little less dramatic and more kindly to us all. I've already received my Hamvention ticket and am looking forward to attending. So let's all have good thoughts toward Hamvention in hopes that it will be held this year.

The bands have been active with SSB, CW and digital on everything from 10m to 160m. FT8 and JT65 activity has been widely reported as well as some RTTY. There has been quite a bit of CW activity from Europe and the Middle East along with South America. So if you have not had your rigs on, you have been missing a good amount of DX.

Let's see what we can look forward to in January.

Thanks to the Northern Ohio Amateur Radio Society, Northern Ohio DX Association, Ohio/Penn PacketCluster Network, the AB5K's AR Cluster Networks, NJ1Q & W1AW, WO2N, NG3K & ADXO, W3UR & The Daily DX, W4DTA, W4VQ, K8YSE, KT8D, W8GEX & 60m DX News, W9ILY, DL1SBF, DL7UXG & The DX News Letter, DXNews.com, DX-World.Net, E73Y, F1ULQ, F6AJA & Les Nouvelles DX, F6EXV, HB9DNG/F5UKV, I1JQ/IK1ADH & 425 DX News, LB6GG, Sixitalia Weekly, VA3RJ & ICPO and VK6VY 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.

January...

TRANSATLANTIC TEST DISCUSSION (YouTube Video). DX Engineering (DXE) has an interesting discussion video by Frank Donovan/W3LPL, John Facella/K9JF and Tim Duffy/K3LR, on the "Transatlantic Test" which took place Saturday, December 11th. Their discussion goes into the history and the celebration of the 100th anniversary of the "Transatlantic Test". Video is just under 30 min. long. It can be viewed at: <https://www.youtube.com/watch?v=LaZgwC9CRnQ>

3B8, MAURITIUS. Ray, HB9DNG/F5UKV (ex-9Q5RP), will be active as 3B8HH from the small village of Pereybèrein the north part of Mauritius sometime mid-January around the 20th. He states on his QRZ.com page that he enjoys CW and DXing with QRP and low power equipment (usually output PWR is 1-5 watts). However, he does mention that he will operate from time to time on PHONE as well as Digital modes. Operations will be on 160-2 meters. QSL via direct, by the Bureau or ClubLog's OQRS. No eQSL.

6W, SENEGAL, Reminder - Dani, EA4ATI is QRV with his temporary call sign 6W1/EA4ATI and here till the end of January. He is active on 80 to 10 meters using mainly SSB. He was heard on 40/20 meters SSB around 1330-1430z and again around 2215-2400z. Dani will try to upload his log to LoTW and eQSL. QSL via EA4R.

9J, ZAMBIA. Mario, IZ3KVD, is again active as 9J2MYT from Lusaka (WW Loc. KH44DO), and will be there until June. Activity will be on 40/20/17/15/10 meters SSB using a Yaesu 897D into a homemade vertical and a long wire antenna. He was heard this past week on 20/15 meters SSB between 1500-1645z. QSL via IZ3KVD direct only. QSL will be printed after his return to Italy.

D6, COMOROS (Postponed). Members of the F6KOP Radio Club that were planning to activate Comoros Islands (AF-007) sometime between mid-to-end January have now postpone their operation due to current Covid situation. They state, "We must sadly announce that due to the actual pandemic situation, travels to Austral Africa are no more allowed. We waited as long as possible and the decision was very difficult to take. It's safer for the team not to travel now. We decided to postpone the DXpedition later in 2022, when all gets again quieter." Look for more details to be forthcoming.

EI90, IRELAND (Special Event). Members of the Irish Radio Transmitters Society (IRTS) will activate the special callsign EI90IRTS to mark 90th anniversary of the founding of their organization. The IRTS was formed in 1932. The EI90IRTS callsign will be used throughout 2022. QSL via EI6AL.

FR/W CROZET ISLAND 2022 DXPEDITION NEWS (Update to OPDX.1538/1539). Paul, F6EXV, informs OPDX that the official Crozet 2022 Web site is online, but still under construction. He mentions, "Some pages are still incomplete, but will be updated soon. The French and English pages are there." Paul also mentions that Thierry, F6CUK, (future operator at Crozet) is in touch with Arthur, FT4XW, (operator at Kerguelen; see FT4/X below) by E-mail. He is 100% legitimate, but is not QRV yet (too busy because of work). More info to follow later.

G, ENGLAND. Members of the Denby Dale Amateur Radio Society will be QRV with special calls GB0HNY, GB1HNY, GB2HNY, GB4HNY, GB5HNY, GB6HNY, GB8HNY, and GB9HNY until January 24, to celebrate the New Year. QSL via operators' instructions.

HS0, THAILAND. Brad, VK2BY, will be active as HS0ZNR from his Thai QTH in the district Nam Yuen, in the Province of Ubon Ratchathani, until 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. Activity is on the HF bands using FT8. QSL via LoTW.

JA, JAPAN. Take, JI3DST will be QRV as JI3DST/6, JJ5RBH/6 and JS6RRR/6 from Tanega Island, IOTA AS-032, until January 10. Activity will be on 80 to 2 meters using CW, SSB, RTTY, FM, FT8 and FT4. QSL to home call.

ON75, BELGIUM (Special Event). The Belgian IARU society UBA is celebrating its 75th anniversary in 2022. To celebrate this event, 64 different special event stations will be active from January 1st through February 28th. Each special event station will be using the prefix ON75 followed by a three letter suffix. Awards for working both a specific number of different ON75 stations and/or working ON75 stations in various band/mode slots are available via this link: (link will be published at the start of the event). Paper QSL cards will only be sent exclusively using OQRS (Online QSL request) via Clublog, either via Bureau or direct.

PACIFIC DXPEDITIONS TOUR. William "BJ", WA7WJR, plans to activate the following islands: **Guam** as KH2/WA7WJR/P during March and **Tinian/Saipan** as KH0/WA7WJR/P during April/May. Activity depends on COVID protocols for arrival by private yacht (arriving by private boat has different protocols than arrival by plane). He states, "If CNMI (Commonwealth of the Northern Mariana Islands) still requires a 7-day quarantine this DXpedition will be postponed or canceled." BJ also mentions that his operation will be "CW (primarily), FT8 and RTTY. (Sorry no phone at this time.)" Operations will primarily be on 40 meters, 20 meters, occasionally 17 meters and 15 meters. QSL via his home callsign or LoTW.

PH21/PH22, THE NETHERLANDS (Special Event). Members of the Radio Scouting Fellowship (PI4RS) and the PA3EFR/J-Plusscouts will activate two special callsigns: PH21HNY - 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.

February...

6W, SENEGAL. Jacques, F6HMJ will be QRV as 6W7/F6HMJ now to February 22. Activity will be on 40 to 10 meters using CW and SSB. QSL to home call.

KH7, HAWAII. Jim, N6TJ, will once again use the callsign KH7Q (OAHU CQ Contesting Club callsign) during the ARRL DX CW Contest (February 19-20th) as a Single-Op/All-Band entry. QSL via KH7U.

KP2, U.S. VIRGIN ISLANDS. Jaime, WP3A, will be active as KP2B from Christiansted, VI, during the ARRL International DX CW Contest (February 19-20th) as a Single-Op/All-Band entry. QSL via EB7DX.

PJ7, ST. MAARTEN ISLAND. Tom, AA9A, will once again be active as PJ7AA from Sint Maarten (NA-105) between Feb 26th and Mar 26th. Activity on 80-10 meters using CW, SSB and FT8. QSL via his home callsign, direct, LoTW or ClubLog OQRS.

V3, BELIZE. Operators Robert/K5PI (V31AT), John/WC0W (V31TP), Madison/W5MJ (V31IT), Karl/AD0KH, Nancie/NM0C, Leigh/WC0T, Steve/WW0G and Keith/VE7KW will be active as V3T from San Ignacio, Belize, during the ARRL International DX CW Contest (February 19-20th) as a Multi-Single/Low-Power entry. QSL V3T and V31TP via WC0W or LoTW (no ClubLog). Look for operations before and after the contest by the operators. They will mostly focus on CW and on the 30/17/12 meter bands. QSL V31IT via M0URX or OQRS. QSL V31AT via K5PI, direct, by the Bureau or LoTW.

YB0, INDONESIA. Pri, YB0ECT, from Jakarta, will be active during the ARRL International DX CW Contest (February 19-20th) as a Single-Op/ Single-Band (20m)/High-Power entry. QSL via W2FB only!

March...

FO/A, AUSTRAL ISLANDS, Jacek, SP5EAQ, will be active as FO/SP5EAQ from Rimatara Island (OC-050, WW Loc. BG37oi) between March 2-30th (if the pandemic permits). This will be a SSB operation on various HF bands as well as the CQWW WPX SSB Contest (March 26-27th) signing with the special callsign TX5AQ. QSL via SP7DQR.

KP2, U.S. VIRGIN ISLANDS. Operators David/EB7DX, Jimmy/KP2BH and Jaime/WP3A will be active as KP2B during the ARRL International DX SSB Contest (March 5-6th) as a Multi-Single entry. QSL via EB7DX.

IOTA News...

AS-024. Tashi, JR2TER, continues to be active as JR2TER/P from **Yonaguni Island** until sometime March 2022. Most of his activity has been on 10 meters FT8, but he has also been on 160/40/17/12m. QSL via eQSL, LoTW (DX only), by the Bureau and ClubLog.

NA-249. (Update) Members of the Radio Operadores del Este (RODE) active as KP3RE from Vieques Island between February 25-27th. Activity will be on all HF bands and modes plus the satellites. Suggested frequencies are:
CW - 3675, 7025, 10105, 14025, 18085, 21025, 24890 and 28025 kHz SSB - 3795, 7190, 14195, 18145, 21295, 24945 and 28490 kHz FT8 - 3567, 7056, 10131, 14090, 18095, 21091, 24911 and 28091 kHz, FT8 will be in the DXpedition mode.
The team states that they will start on a simplex frequency then switch to split 5-10 kHz UP or DOWN. Satellite operations will be on the FM and Linear Satellites (from WW Loc. FK78). QSL via EA5GL.

That's what I have now for the next few months. As I've done in the past, if something of great interest comes up during the month, I will send out a separate announcement. Please use your license privileges and get on the air. Let's work together to keep our allotted frequencies for our great hobby. Until next month.... 73

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!!



The screenshot shows the PCARS IO Group page on groups.io. The header includes the group name 'PCARS K8BF' and the tagline 'The Club that puts the FUN in Ham Radio!'. Below this, there is a section for 'Group Settings' with various options like 'All subscribers can post to the group', 'Posts to this group require approval from the moderators', etc. There is also a 'Group Description' section and a 'Group Information' section with details like '59 Members' and '1 Topic, Last Post: Feb 21'.



WRTH Handbook

End of the road for the World Radio TV Handbook

It was announced Dec. 9th that the World Radio TV Handbook is coming to an end and the 2022 edition will be the last one.

In a statement, the publishers wrote...

"Having produced this book for the past 24 years, we are very sorry to announce that WRTH 2022 will be the final edition of World Radio TV Handbook produced and published by WRTH Publications.

This has been an extremely difficult decision and was only made after a lot of thought and discussion.

We know that many people rely on WRTH and greatly enjoy getting the new edition every year.

We realize that this news will be disappointing for many people. We wish to thank you all for your loyal support over the years.

Good DX and Happy Listening,

Nicholas Hardyman (WRTH Publisher) and the WRTH Editorial team"

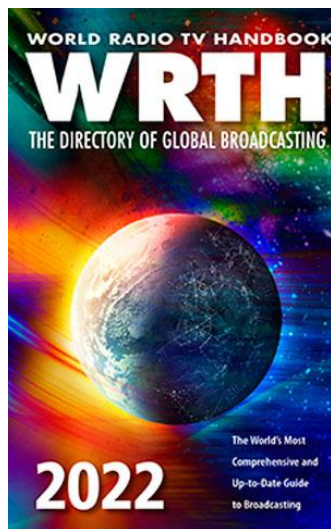
Back before the widespread use of the Internet in the mid to late 1990's, this book was a must for any serious short wave listener.

Fast forward to today and there is a huge amount of information available for free online. In addition to that, shortwave broadcasting in many parts of the world has disappeared or declined.

The current price for the 2022 edition is £35 which is about €41 or \$46. There may be post & packing costs to be added to that so it is quite expensive in contrast to what is free online.

If you would like to purchase the 76th and final edition of the World Radio TV Handbook then go to their website... https://wrth.com/_shop/

<https://ei7gl.blogspot.com/2021/12/end-of-road-for-world-radio-tv-handbook.html>



LW & MW by Region			FREQUENCY LISTS		
EUROPE, AFRICA, NEAR & MIDDLE EAST					
Abbreviations: AFN=American Forces Network; BBC=British Broadcasting Corporation; Voice of Russia (VOR)=Cairo; de Voice of Germany (VOD)=Cologne; de Voice of France (VDF)=Paris; de Voice of Italy (VDI)=Rome; de Voice of Spain (VDS)=Madrid; de Voice of the Netherlands (VDN)=Amsterdam; de Voice of Belgium (VDB)=Brussels; de Voice of Luxembourg (VDL)=Luxembourg; de Voice of Switzerland (VDSW)=Geneva; de Voice of Austria (VDA)=Vienna; de Voice of Czech Republic (VDCR)=Prague; de Voice of Slovakia (VDSK)=Bratislava; de Voice of Hungary (VDSK)=Budapest; de Voice of Poland (VDP)=Warsaw; de Voice of Czech Republic (VDCR)=Prague; de Voice of Slovakia (VDSK)=Bratislava; de Voice of Hungary (VDSK)=Budapest; de Voice of Poland (VDP)=Warsaw; de Voice of Czech Republic (VDCR)=Prague; de Voice of Slovakia (VDSK)=Bratislava; de Voice of Hungary (VDSK)=Budapest; de Voice of Poland (VDP)=Warsaw; de Voice of Czech Republic (VDCR)=Prague; de Voice of Slovakia (VDSK)=Bratislava; de Voice of Hungary (VDSK)=Budapest; 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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

2022 Carole Perry Educator of the Year Award Announced



FOR RELEASE
January 6, 2022

Dick Fijlstra named Recipient of 2022 Carole Perry Educator of the Year Award Announced

HamCation is excited to announce Dick Fijlstra, PA0DFN as the 2022 recipient of the Carole Perry Educator of the Year Award. This award is bestowed upon an individual who has made an outstanding contribution educating and advancing youth in Amateur Radio. It was first awarded in 2018 to its namesake, Carole Perry, WB2MGP, in honor of her work as an educator teaching students about ham radio.

Dick is our first international winner of the Carole Perry Educator of the Year Award. Dick is a Dutch native and a retired principal. He has been working for years to reach youth with the latest technology to connect them to Ham Radio. He has an Extra Class license for over forty years. At Ham events he is helping young kids merge and solder radio parts as small learning projects. He guides groups of other hams to assist the youth to finish the projects the right way.

He is also the organizer of international school projects: Communication Helps International Progress "CHIP". Participating schools in the Netherlands, Belgium, France, Portugal, Hungary, Latvia, Sweden, Denmark, England, and Ukraine.

Dick is also the Dutch representative of the VERON (the national organization of Ham Operators) in the Region I IARU ARDF committee (Amateur Radio Direction Finding). This group is focused on the European Youth ARDF Championships on Fox hunting for teens from fourteen to nineteen years old.

Orlando HamCation has been sponsored by the Orlando Amateur Radio Club since 1946 which is held annually on the second weekend of February. HamCation has grown to become the second largest hamfest in the world. Attendance has grown an average of 1500 people for the past 8 years, with last year's event having 24,200 attendees. HamCation 2022 is February 11-13, 2022.



From the CQ Blog

Swains Island DXpedition Postponed

The planned W8S DXpedition to Swains Island in American Samoa has been postponed until March of 2023.



According to a post on DXWorld.net, a combination of continued COVID travel restrictions, a limited number of flights from Hawaii to American Samoa to begin with, and the involvement of two team members in the planned 3Y0J Bouvet expedition in late 2022 led to the conclusion that "(t)he risk is too great to travel to Swains in the spring of 2022."

Team leader Ronald Stuy, PA3EWP, assured DXers that the trip was only postponed, not cancelled, and noted that the delay should help offer improved propagation on the higher bands due to the rising sunspot cycle.

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Crozet DXpeditioner: Keep Your Expectations Reasonable

Thierry Mazel, F6CUK, who plans to activate Crozet Island (FT5W) for three months in late 2022 and early 2023, is cautioning DXers not to have unrealistic expectations.

According to the *ARRL Letter*, Mazel says weather and other nature-related factors will guide the setup and operation of the DXpedition. He notes that the wind blows constantly at speeds exceeding 40 miles per hour, with gusts over 90 mph, and that a combination of the island's volcanic rock and restrictions in place to protect wildlife and the natural environment limit antenna possibilities.



He also noted that the authorities are only permitting the use of wire antennas anchored to existing buildings, and that planners are still working on the "best solution for the best antenna possible." Crozet is #3 on the ClubLog most-wanted list, behind North Korea and Bouvet.

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Major Hamfests Plan Return to In-Person Gatherings

Both the Orlando Hamcation® and the Dayton Hamvention® plan on returning to in-person gatherings in 2022. Orlando will host the 2022 ARRL National Convention, which will also feature a day of "training tracks" prior to the start of the hamfest, according to the *ARRL Letter*. The four parallel training tracks will be Contest University, the Emergency Communications Academy, "Hands-On Handbook" and Technology Academy, all led by well-known experts in the various subject areas.





Dayton is also planning a return to an in-person hamfest after being cancelled in 2020 and 2021 because of Covid, according to Southgate Amateur Radio News. Nominations are now open for the prestigious Dayton awards - Amateur of the Year, Technical Achievement, Special Achievement and Club of the Year. Nominations are due by February 15,

2022. Details may be found at <www.hamvention.org>.

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First FM-Capable CB Rig Approved by FCC

President Electronics has received the first FCC approval to market an FM-capable CB transceiver in the U.S. The FCC authorized the use of FM on CB last summer.



Newsline reports that President's "Thomas FCC" transceiver was granted FCC authorization on November 10 to operate between 26.965 and 27.405 MHz with a maximum output power of 4 watts.

It is not clear how soon the radios will be available for purchase in the U.S. A European version of the Thomas model has been available there for nearly a decade.

=====

Work DX, Win a Hard Hat!

Attendees at January's Quartzfest ham radio gathering in the Arizona desert (see "Gordo's Short Circuits," October 2021 *CQ* or <<https://quartzfest.org>>) will have an opportunity to enter a unique competition and win some pretty cool prizes.



The Northern Arizona DX Association is sponsoring its third annual *Distance Challenge*, with competitions in four categories and the goal of making the farthest DX contact using portable gear brought to the event. Those who don't bring HF gear will be able to use one of the three W7Q special event station operating positions to compete.

Each category champion and runner-up will share in \$2600 worth of prizes from various manufacturers and dealers. In addition, the champs in each category will take home a customized hard-hat, courtesy of Cable X-Perts. Designed by NADXA Vice President Larry Gilbert, WB7EUJ (pictured), the hard-hats contain a solar cell, which powers a cooling fan, light and a USB connector for charging your phone or other device. For complete details on the Quartzfest Distance Challenge, visit <<https://tinyurl.com/2p9xhjwd>>.

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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.

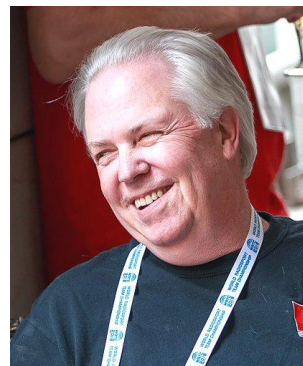
Hamvention® will be happening on Friday **May 20th through Sunday May 22nd** with an international reception scheduled on Thursday May 19th. Rick said the registration site is already taking bookings from vendors and inside exhibitors and individual visitors can already buy their tickets. All details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



Contest University registration is now **OPEN** and ready for May 19, 2022, at the Hope Hotel in Dayton, Ohio.

For 15 years - Contest University has had over 15,000 hams participate worldwide. We are very excited to be back in person in Dayton, Ohio - the day before Hamvention®.

For more information and to sign up please go to: <https://www.contestuniversity.com/>

Contest University is Coming to Orlando in February

Contest University (CTU) is coming to Orlando, Florida for the first time on Thursday, February 10, as part of the 2022 ARRL National Convention. This all-day Training Track will be held at the DoubleTree by Hilton Orlando at SeaWorld and includes a seat at the ARRL National Convention Luncheon. Learn from some of the top testers in the world. CTU will be led by Tim Duffy, K3LR.

Presenters include Fred Kleber, K9VV/NP2X; Chris Blake, NX4N; Luis Romero, W4LT; Max Fountain, KJ4EUT, and Claudio Veroli, I4VEQ. This is an opportunity for new testers as well as already-competitive operators looking to hone their skills. Instruction includes general contest operations and contest station skills, and many resources for additional information and tools to further enjoy contesting.

ARRL CEO David Minster, NA2AA, will deliver the keynote at the National Convention Luncheon. Register by December 31 to receive the early bird rate at www.arrl.org/expo. **DX** Engineering is the Official Sponsor of the 2022 ARRL National Convention Program.

Joe, W8KNO



New Computer? You Need to Update LoTW

With Christmas over, it is time to get back to playing radio. If you received a new computer, you will need to make some changes to your computer if you want to continue to use Log Book of the World (LoTW). The reason is that when changing computers (or hardware or operating system) A new certificate is required.

1. First you need to uninstall TQSL - This can be done using control panel's Programs and Features.
2. Reboot.
3. Reinstall TQSL from the ARRL web site. Where a password is asked for, leave it blank.
4. Delete your Callsign Certificate. This is a little tricky.
5. Click on the Lower Menu Bar.
6. Your callsign should appear.
7. Right click on your callsign.
8. Choose Delete from the drop down menu.
9. Next, choose Callsign Certificate from the Upper Menu Bar.
10. Click on request New Callsign Certificate.
11. Create a new request. Choose the QSO Begin Date that is approximately when your callsign was issued.
12. Send the new request to LoTW. Do not delete the newly created red clock ICON request. Let TQSL upload your request.
13. The ARRL no longer sends you a password on a post card. Once they process the certificate, you will receive an e-mail from LoTW with the corresponding TQ6 file.
14. Use the TQ6 to activate your new certificate (Clock Icon changes to a gold ribbon. You can do this by either double-clicking on the TQ6 file or save and click on the Load Callsign Certificate Icon in the TQSL program under the Callsign Certificates TAB.
15. When you have your new gold ribbon certificate, make sure to create a separate and unique named station location under the Station Locations Tab



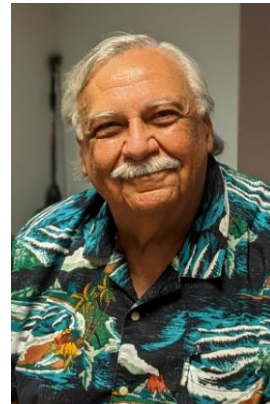
Check out the LoTW information: <https://lotw.arrl.org/lotw-help/GettingHelp/>

If all this fails, e-mail either Kathy Allison (KA1RWY@arrl.org) or Bart Jahnke (w9jj@arrl.org) for more help.



17th Annual FYAO 2022 - February 12th

Chuck, W8PT
FYAO Chairman



This is one activity that PCARS has done **every year** since we started and we did not want to skip a year (that's why the 2021 FYAO was in December).



This will be the 17th annual FYAO. So, get your woolies on because on **February 12th**, at **Fred Fuller Park** in the Roy Smith Shelter house, we will be holding our 2022 Freeze Your Acorns Off QRP Event. Set up begins at 9 AM with the event starting at 10 AM and continuing until 3 PM. 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 everyone's enjoyment. Who knows, yours truly might even bring a dish to pass. As always, there will be coffee and really, really, good 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.



Joe, W8KNO



80th Anniversary of the 8th Air Force

We just past the 80th anniversary of Pearl Harbor which caused the United States to enter into WW II; therefore, this month's Special Event Station, **WW2FLY** continues that theme commemorating the 80th Anniversary of the 8th Air Force. The sponsoring club for the special event is the **WWII Flying Fortress**

Amateur Radio Club of Attica, New York.



The 8th Air Force mainly flew B-17s and B-24s over Europe.

The special event will be occurring

between the hours of 0400Z on the 19th of January until 0359Z on the 24th of January.



You will find them near 1.900 3.850 7.180 14.250 MHz using SSB and FT8. They will also post themselves on spotting nets in case the bands are busy.

If you work them, you can obtain a Certificate & QSL Card from:

WWII Flying Fortress Amateur Radio Club
3339 Stroh Rd.
Attica, NY 14011



Christmas Crystal Radio Set

Bob, KD8CGH



After building cutting edge SDRs like the the uSDX and HL2 and super efficient rigs like the QCX my latest build goes ever further. This receiver goes past software definition to hardware definition and is so efficient that it requires no power supply at all!

I received this crystal radio kit for Christmas from my daughter. I built it into a cigar box as is only proper for this classic. The first radio I ever built as a child was a yellow plastic Remco crystal receiver.

I remember laying in bed listening with the lights off when I was supposed to be sleeping. Looking out through a

window near my bed I could see the blinking red lights on radio towers.

I hope that you all give and receive something wonderful this season.

Merry Christmas



WRTC Committee Promoting WRTC 2022

The WRTC 2022 Committee has announced a first time ever award, promoting World Radiosport Team Championship 2022. Starting on January 1 and concluding July 10, 2022, over 100 Italian operators will activate special WRTC callsigns, one for each Italian call area. These special WRTC callsigns will also be active during some contests, concluding with the 2022 IARU HF World Championship.

Each participant's QSO totals and award hunter scores will be displayed on a real-time leaderboard at www.wrtc2022.it/award. Each participant will be able to download the award in digital format at the end of the event.

Read the full rules at www.wrtc2022.it/award.



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 75 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.



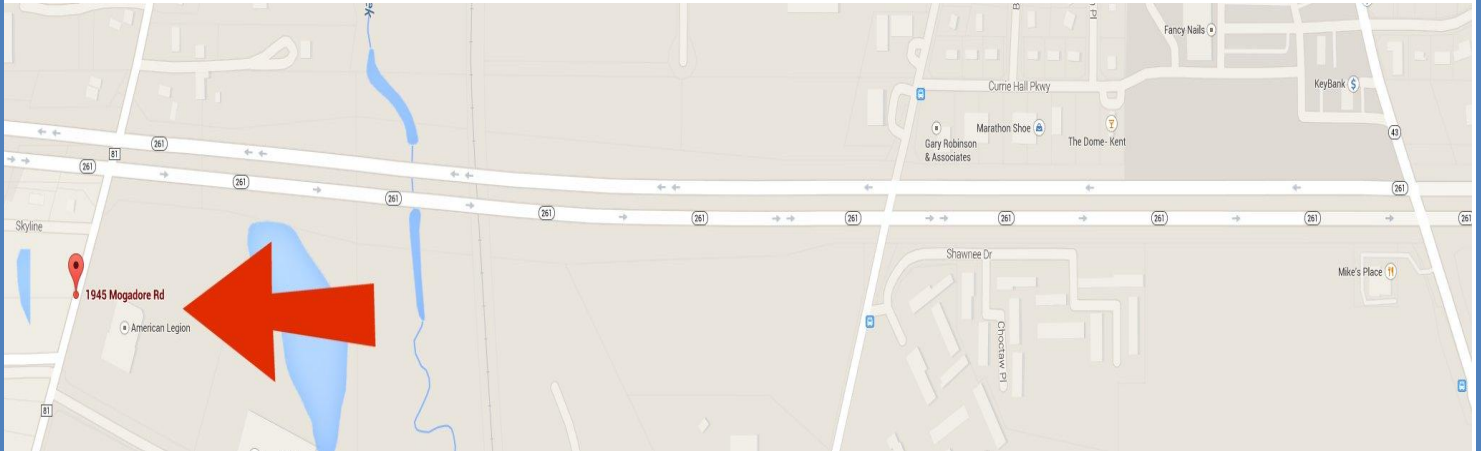
PCARS Meetings

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 December Meeting





PCARS

Dec. 13, 2021



Portage County Amateur Radio Service, Inc.



PCARS - K8BF

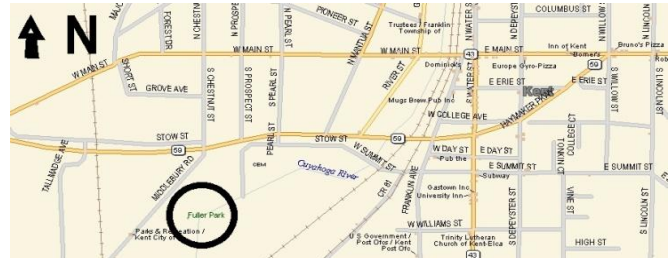
~ 17th Annual ~

"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 - Feb. 12, 2022
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



Winter General Class Cancelled

All of the winter General Class sessions scheduled to start Wednesday January 5th are cancelled. This decision is the result of low student sign-up and the current Covid situation. This class will be rescheduled later in the year.

Jim, AC8NT

As a **General Class Amateur Radio Operator** you will be able to communicate with 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)

Here's one for the FT8 guys

Still think CW purists are rough on FT8 operators?

Me: I talked to a guy in Thailand this morning!

Wife: No, you didn't. Your MacBook talked to a PC in Thailand while you were at the kitchen counter making coffee.

From **Chuck, W8PT**



And now
for something
completely different...

The REAL cost of Ham Radio

From **Daryl, WX4QZ**

Used starter rig/antennas	\$800
ARRL Membership	49
Local club membership	20
Club hat/vest/memorabilia	150
House repairs from damage for antenna access hole	1800
New chair for shack	169
Amplifier	2500
Electrician bill for 220v to shack	1600
Electrician bill from amp blowing kitchen breaker	1100
New computer for logging/digi modes	1600
Money for XYL for HER HOBBY	10000
New tower and antennas	3700
New homeowners insurance because towers not allowed	3100
Legal fees from HOA	8000
HOA fines for antennas	5000
More money for XYL hobby	19500
New rural home to get away from HOA	475,000
Money for SOTA rig/antennas	2300
Medical exp. For injuries getting to SOTA site	8500
New 4x4 SUV for getting to SOTA sites	47500
New side by side for getting to last 100 feet at SOTA site	16250
New RV for POTA	31500
New rigs/antennas for POTA RV	3200
Divorce	75000
1 bedroom apartment deposit/rent	2400
Used starter rig/antennas	800
TOTAL \$ 721,538	

You have been warned! Kelly_K7SU

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 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 you know 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, WA8EFK, N8SY, WB8LCD, KB8UUZ, W8PT, KE8LWO, WG8Z, N8FTP, KA8TOA, K8CAV, AC8NT, N6PSE, WB2MGP, W8KNO, K3LR, KD8CGH, WX4QZ, 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 - Do All You Can to be SAFE

Yes, we are all tired of this and want to get back to “normal”. And, we will, one day, do just that.



RECORD DAILY COVID CASES



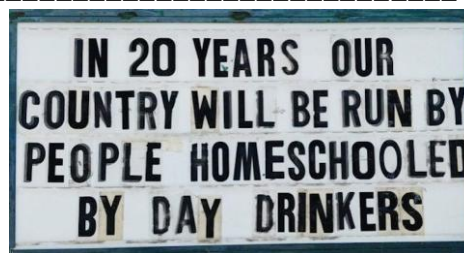
It seems like this has gone on for far longer than it has. Everyone is frustrated, and disappointed that things are not ‘normal’. This is indeed a time in history that will be long remembered by those that are alive today. But, as with the pandemic of 1918 - I would image our relatives 100 years from now will look back and just think the pandemic of 2020-2023 was a blip in history. Meanwhile - take a breath - calm down - think good thoughts and the good times will return.

But until then, *please* be careful. Let's hope 2022 is a better year for all.

Will this pandemic ever end? Here's what happened with the last ones - Covid, Flu, Smallpox, Polio, HIV/AIDS, SARS, Swine Flu, Ebola - <https://news.yahoo.com/pandemic-ever-end-heres-happened-130053504.html>

This story originally appeared in Los Angeles Times.

<https://www.latimes.com/science/story/2021-12-23/will-the-pandemic-ever-end-heres-what-happened-with-the-last-ones>



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

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

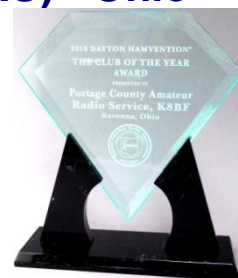


PCARS meets the second Monday of each month at the **Kent American Legion Post 496**.
1945 Mogadore Rd. - just South of Rt. 261 - Enter the rear of the building for the meeting room.

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



~ 2022 Officers ~		2022 PCARS Appointments & Committees	
President - Nick Wagner - AC8QG Vice President - Mike Szabo - N8WCP Treasurer - Greg Ash - KA8TOA 1 Year Trustee - John Myers - WG8X 2 Year Trustee - Tom Parkinson - KB8UUZ 3 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	
		Field Day Chairman, 2022	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	
		Net Control Coordinator	KA8TOA Greg Ash
		Newsletter Editor	KB8UUZ Tom Parkinson
		OSPOTA Chairman	KB8UUZ Tom Parkinson
		PCARS Meeting Photographer	KE8LWO Bernadette Wagner
~ Meetings & Net ~		Public Information Officer	
2nd Monday of each month, 7pm Thursday night Club Net at 8 pm on 146.895		Secretary	KE8EGF Paul Hyland
		Social Media	
		Tech, Gen & Extra Class Manager	
		Volunteer Examiner Liaison	KB8UUZ Tom Parkinson
		Webmaster	WG8X John Myers



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

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

Articles are the opinion of the authors and not necessarily those of PCARS. Or, better yet, let me express it this way: "These are my opinions and only my opinions, unless you share them as well, which would make them our opinions, but I am not of the opinion that I can express your opinion as my opinion without your prior expression of said opinion, and then my re-utterance of that opinion would, in my opinion, be foolish unless I were expressing agreement to your opinion, and then it wouldn't be my opinion but your opinion to which I only agree." **GO AHEAD - STEAL THIS NEWSLETTER!** You have our permission to post, e-mail, copy, print, or reproduce this newsletter as many times as you like, but please do not modify what you use. If you use material in this newsletter, all we ask is that you give credit to PCARS along with the author of the article. Caution - some of the articles in this newsletter maybe covered by copyright - please do not copy and use the ones that have by-line information unless you obtain permission from the original author. If you're not sure, drop an e-mail to 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!**

The RADIOGRAM is published every month and only sent to subscribers. If you would prefer not to receive this newsletter, we understand. We'll try not to take it personally. It's not you saying you don't like us, but maybe you just don't have the time to look at all this hard work we've done just for you. Hey, that's cool. But if your heart is truly set on making sure you no longer receive this newsletter, even though we promise to one day reveal the meaning of life in it and you're going to be really upset when you miss out on that, we can take you off the e-mail list. Send your newsletter inputs (in .TXT format) along with in-focus pictures (not small 50 kb photos) to the newsletter editor: KB8UUZ@gmail.com

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



NLC



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