



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

July 2020 - Volume 15 Number 7

**Celebrate the 4th
13 Colonies
On The Air**



Special Feature

“Battling the Radio Beams”



PCARS K8BF

The Club that puts the FUN in Ham Radio!



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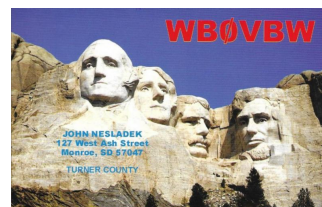
Portage County Amateur Radio Service

K8BF

2018 Hamvention Club of the Year

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From the Editor: You will see some humor based cartoons about the COVID-19. Yes, I agree that this pandemic is VERY serious to all - but in tough times, you just have to have a bit of humor to get you through - I hope you agree. Hang in there, please.

From the President

Tom, WB8LCD PCARS President



Field Day is over. I hope that means my “Flip Flopping” is over too. Depending on when this comes out, we’re either looking forward to the 4th of July, or we’ve just had it – either way – God Bless America!

I’d really like to get back to some “normalcy” in my life, and especially the activities of PCARS. I’m hoping (and planning) for July to be the month that all of this starts to take a turn! I know that there are probably more than a few of you who might think I’m pushing it and may want to hang out just a bit longer. No Problem. I respect your opinion and your actions. We will try to be as inclusive as possible giving everyone the space and the opportunity to participate in a way, and at a time that they feel comfortable with. No guilt, no judgment.

I’ll be asking the officers to meet for our July meeting on Monday July 6th at the Club Site. In addition to the “in person” experience, we will also have a ZOOM connection open so that you can participate from home. If anyone else would like to sit in on the meeting, please let me know and I’ll give you the ZOOM meeting information. I will ask that at the club site only the officers show up in person so that we have ample room for “social distancing”.

Next up is the PCARS monthly meeting on Monday July 13th. The American Legion is open and expecting us to be there! At this point, our plan is to meet in Underwood Hall, again so that there is adequate space for “social distancing”. Kim tells me the kitchen will be open and drinks will be available from the canteen. I hope you’ll come out and I’m sure that Nick has more information about our speaker, who again will be coming to us over ZOOM. This creates another interesting opportunity for us to open our meeting not only to those present, but also to those who would prefer to stay away from the group and, potentially, those who are too far away to make the trip for the monthly meeting. I am hoping that some of you will take that option and report back to me what your experience was like, what you did and didn’t like about the experience. If it works out good it could give us the opportunity to reach hams who would like to join us over a much larger area, and provide another option for our members who are not always able to come out in person.



As of this moment (trying to get ahead of my article deadline) I have not yet had a chance to contact all of the SIG leaders, but, because of the typically smaller group size of the SIGS that might be another good area for opening activities. As I work my way through that, I’ll communicate through QST’s which, if any, will take place this month. Net Night at the club site on July 25th is a definite possibility.

This brings us up to August (Can you believe it? August already? Almost seems like I just missed a big part of the first half of 2020). In addition to the activities I’ve already mentioned for July, we hope to be adding a couple more. We usually have our PCARS Cruise In sometime in August, we’re looking in to reviving that activity. As long as the A&W can accommodate us, it’s a good activity because it’s pretty much out in the open. Saturday, August 22 is the Ohio QSO Party. Or, as we know it, the OH BBQSO Party! Presuming good weather conditions, another event that can take place primarily out in the open. One last item to mention here – OSPOTA. Saturday September 12th. Put it on your calendar.

If we continue to have good results, we will continue to fill in our schedule with lots of other activities to keep you all active with the hobby. But, we will continue to monitor what is going on around us and temper our plans accordingly. “Temper our plans accordingly” – sounds much better than “flip flopping” doesn’t it?

I have enjoyed our ZOOM meetings. It's been different, but we've had some really good folks presenting to us! Thanks again to Michael Kalter – W8CI, Jim Storms – AB8YK and Geoff Howard – W0CG for their programs. I also want to thank everyone who submitted their photo's and comments about their stations and how they participate in our hobby. It's always interesting to see what your fellow club members are doing. To that end, put a couple pictures together along with some biographical information on yourself and your ham radio journey and send them into Parky to include in one of our future issues of the "Award Winning" Radiogram.

At last month's officer's meeting, I tossed out the idea of having our 50/50 drawing even though our meeting was all online. Between our officer's meeting on June 1st and our club meeting on June 8th, all the logistics were worked out, it was put up on the website, and by 6:00PM on Monday the 8th we had \$365 in ticket sales! Congratulations to Rick – KD8WCK who took home the winners 50% which amounted to \$182.50! Not only congratulations but **Thank You!** to Paul – KE8EGF, John – KD8MQ and Jim – AC8NT who made it all happen in a very short amount of time. People who are willing and able to "Get It Done" are certainly one of the most valuable assets a club like PCARS could possibly have. Hard stuff gets done immediately, impossible stuff takes a day or two!

Finally, let me say Thank You to Scott Yonally – N8SY for making the ZOOM platform available to PCARS for our meetings these past few months. And Congratulations Scott for being elected (unopposed) for another term as OH Section Manager. It's certainly well deserved.

73 for now, but I'll keep you posted as the world continues to turn.



From the Vice President

Nick, AC8QG
PCARS Vice President

Well, it looks like we're finally going to begin (carefully) resuming activities! It's been a long wait, and we still have to follow some extra protocols, but here we are at last! The last few months really tested our ability to adapt and overcome, but I think we've done well sticking together as a club! I appreciate all the attendees at our monthly meetings, the people checking in on the weekly net, and the dedication of the club officers and other volunteers to keep things going during this crazy time.



I will try to make sure everybody can still participate in club meetings from home over Zoom, so don't worry if you're not ready to come out in public yet. We'll all do our best to bring some of the "big fun" to you!

A few days ago I took advantage of the invite from MCARC to join them for the presentation from Angel, WP3R about the Arecibo Radio Telescope in Puerto Rico. I have to say, it was really one of the most enjoyable Zoom calls I've been on this year. Big thank you to Tim, K3LR for inviting PCARS members, and it was great to see that several of you were able to join the call as well.

As I write this, I'm already looking forward to hearing the Field Day stories about everyone's experiences. I'm confident that I'll hear plenty of stories of success and plenty of stories of frustration. In either case, I hope everyone learned something!

Upcoming Meetings and Events

All of our in-person board meetings, regular monthly club meetings, special interest group meetings, build days, and all club Site activities are canceled until further notice.

- July Monthly Meeting: **Harry Bloomberg W3YJ, remote station operation**
- August Monthly Meeting: **Hal Turley W8HC, Pitcairn Island DXpedition**
- September Monthly Meeting: **Gordon West WB6NOA**

If you have any suggestions for a meeting topic, or if you are interested in giving a presentation, please let me know. We're always looking for new and interesting topics!

Schedule of Events



On the calendar for upcoming meetings and activities are:



July 6th - Board Meeting - starts at 7 pm
July 13th - PCARS Meeting - 7 pm - Harry Bloomberg W3YJ, remote station
July 18-19th - North American QSO Party
July 23rd - Net Night at the Club Site
August 3rd - Board Meeting - starts at 7 pm
August 10th - PCARS Meeting - 7 pm - Hal Turley W8HC, Pitcairn Is. DXpedition
August 22nd - Ohio QSO Party & PCARS Bar-B-QSO Party
August 27th - Net Night at the Club Site

NOTE: All In-Person Activities & Meetings

Subject To Cancellation

Check Web Site for Updates

First Tuesday	-	Digital - Moderator: Rick, K8CAV
Second Tuesday	-	QRP/CW - Moderator: Terry, KB8AMZ
Third Tuesday	-	Antenna - Moderator: Tony, WA8AR
Fourth Tuesday	-	DX & Contest - Moderator: Chuck, W8PT
Fifth Tuesday	-	Linux for Hams - Moderator: Terry, KB8AMZ
Fourth Thursday	-	Net Night at the Club Site - 6:30 pm - Moderator: Tom, WB8LCD



PCARS
www.portcars.org



PCARS Custom Coffee Cups - Limited Edition- Going Fast

PCARS has obtained a 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 - Paul, KE8EGF.**

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



Portage County Amateur Radio Service



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

Contact Paul for all of the details



Dayton Hamvention® Announcements

Dayton Hamvention® Announces New Chair, Assistant Chair for 2021 Show

The Dayton Amateur Radio Association (DARA) has appointed **Rick Allnutt, WS8G**, as the **General Chair for Dayton Hamvention® 2021**, heading a team of some 750 volunteers.

An ARRL Life Member and a ham since 1982, Allnutt, who served as Assistant General Chair with outgoing General Chair Jack Gerbs, WB8SCT, has been a Hamvention volunteer for the past decade.

"Hamvention is very important in my experience of amateur radio," Allnutt said. "I am honored to serve as the General Chair of the Dayton Hamvention."

Tapped as **Assistant General Chair is Jim Storms, AB8YK**, a past president, vice president, and secretary of the SouthWest Ohio DX Association. He has been DARA's vice president and Hamvention advance registration chair for 3 years and is cofounder, director, and trip team leader of the Dave Kalter Memorial Youth DX Adventure.

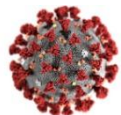
The DARA Board expressed its gratitude to Gerbs for his service to Hamvention and DARA. The appointments are effective on July 1. Hamvention 2021 will take place May 21 - 23.



PCARS VE Test Information & News

Tom, KB8UUZ
PCARS VE Team Liaison

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



NOTE: All Dates Subject To Cancellation

Check Web Site for Updates

Oct 3rd, Dec 5th

Amateur Extra Class question pool changes - July 1, 2020

What to Bring to the Testing Session

- \$15 is still the current test fee. We prefer the exact amount in cash or a check made out to: **ARRL-VEC**
- A government photo ID (**driver's license or state ID card preferred**).
- Your Social Security Number or FCC Federal Registration Number. We are required to submit either your Social Security Number (SSN) or your FCC Federal Registration Number (FRN) with your application. If you are upgrading, your FRN is on your current Amateur Radio license.
- A pen (black ink) and pencil (we can loan you either or both)
- **If you already have an Amateur Radio license: One copy of your current (*unexpired*) Amateur Radio Operator License issued to you.**
- 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.

Any Questions? Contact: KB8UUZ@gmail.com



New Extra Class Element 4 Exams will take effect for exam sessions beginning Wednesday July 1, 2020

The newly revised pool, released in January 2020 (updated and re-released in February and March 2020) by the Question Pool Committee (QPC) of the National Conference of Volunteer Examiner Coordinators (NCVEC), must be in use starting July 1. There are ten graphics required for this pool.



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



13 Colonies Special Event



The Annual 13 Colonies Special Event

GB13COL

WM3PEN

NY - K2A

VA - K2B DE - K2E MA - K2H NH - K2K
RI - K2C MD - K2F NJ - K2I SC - K2L
CT - K2D GA - K2G NC - K2J PA - K2M

2020 Event Dates / July 1 (9AM Eastern) to July 7 (Midnight Eastern)

(July 1, 2020-1300 UTC to July 8, 2020-0400 UTC)

**YOU DO NOT NEED ALL 13 COLONIES TO GET THE CERTIFICATE
YOU DO NOT NEED TO GET THE 2 BONUS STATIONS FOR A CLEAN SWEEP**

The 13 Colonies Special Event is a not for profit event. All donations are used to fund the next years event, and to defray any expenses occurred. All donations are used for operating costs, supplies, equipment, and 13 Colony Group initiatives. Donation is voluntary. If you have difficulty with a donation, tell us on your log sheet, and we will send you the certificate earned-No Questions Asked!.

Spotting

If you work a colony station, you are encouraged to spot it for others. We suggest DX Summit.

Bands and Modes

All HF bands will be in play, including the WARC bands, with the exception of 60 meters. Simplex on 2 meters and 6 meters is encouraged.

The SE stations are on the east coast and, are very close to each other. It will be harder for these states to contact each other so, use of 40m-160m is encouraged.

All modes of operation may be represented - SSB, CW, RTTY, Digital, Etc. - The mode of operation is up to the individual colony state station. Please refer to the State information pages for details.

The 13 Colonies Special Event is a not for profit event. All donations are used to fund the next years event, and to defray any expenses occurred. All donations are used for operating costs, supplies, equipment, and 13 Colony Group initiatives. Donation is voluntary. If you have difficulty with a donation, tell us on your log sheet, and we will send you the certificate earned-No Questions Asked!.

Exchange

The exchange for this event is:

CALL SIGN

RS / RST / RSQ

STATE / PROVINCE or

COUNTRY

Log Sheets

http://www.13colonies.us/2019_log

Web Site:

<http://www.13colonies.us/>

12th Annual 13 Colonies Special Event
July 1st - July 7th, 2020
Independence Week Celebration

1776 2020

K2A-New York K2H-Massachusetts
K2B-Virginia K2I-New Jersey
K2C-Rhode Island K2J-N.Carolina
K2D-Connecticut K2K-N.Hampshire
K2E-Delaware K2L-S.Carolina
K2F-Maryland K2M-Pennsylvania
K2G-Georgia GB13COL Gr.Britain

WM3PEN PHILADELPHIA

SYMBOL OF FREEDOM
The American Bald Eagle

THIS IS TO CERTIFY THAT ARS: **KU2US** HAS PARTICIPATED
IN THIS FOURTH OF JULY WEEK CELEBRATION HONORING THE
ORIGINAL 13 COLONY STATES, THE INDEPENDENCE OF OUR
NATION IN 1776, & OUR ACTIVE MILITARY VETERANS.

CONTACTS
13
ALL 13 COLONY STATES
CLEAN SWEEP

GOD SAVE AMERICA

KEN VILLONE-KU2US/EVENT MANAGER Ken Villone

73'

An On-Air
Amateur Radio Event

Virtual Ham Expo Set for August

[QSO Today](#) podcast host Eric Guth, 4Z1UG/WA6IGR, has announced that the first [QSO Today Virtual Ham Expo](#) will take place **Saturday and Sunday, August 8 - 9**. Attendance is **free** to all, [registration](#) is open, and there are early bird prizes for registering now.

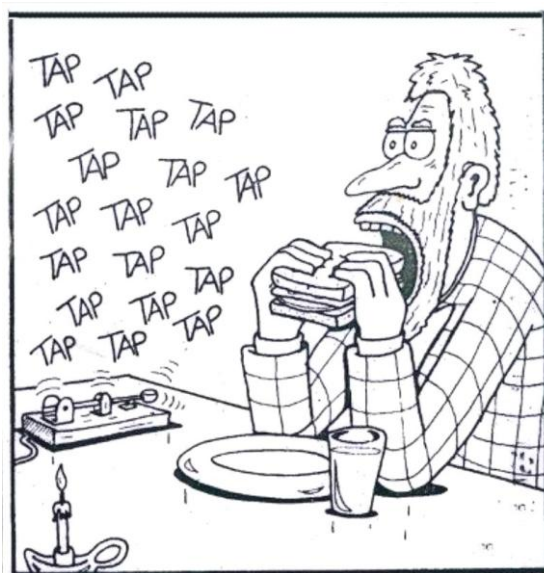


Built on a live, virtual reality platform used by Fortune 500 companies and major universities, the ARRL-sanctioned hamfest will feature a lineup of well-known speakers. Guth and his team, including George Zafiropoulos, KJ6VU, have assembled more than 50 of the best ham radio mentors in multiple tracks to address this conference from the virtual Expo's auditorium.

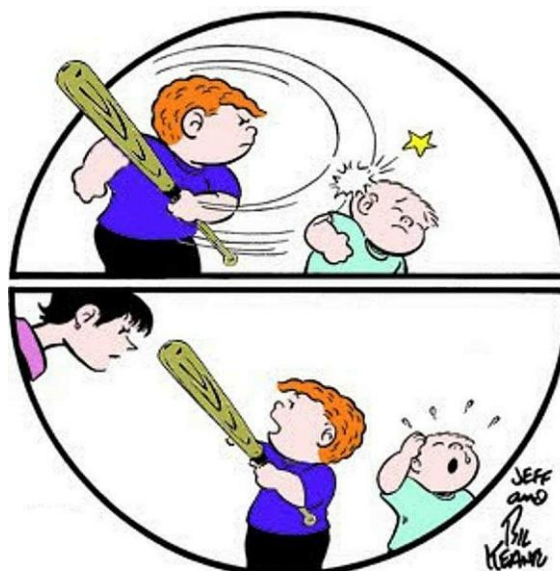
Presenters will include Ward Silver, N0AX, on grounding and bonding; Glenn Johnson, W0GJ, on DXpeditions, and John Portune, W6NBC, on building slot antennas for antenna-restricted locations. Demonstrations of new amateur radio gear will be presented, and attendees can speak with exhibitors via video/audio or chat, as well as interact with others online.

"This platform simulates a full convention experience, with an exhibit hall and exhibit booths staffed by live attendants, speaker auditorium, lobby, and lounges," the announcement said. Guth, an ARRL member, decided to go forward with the virtual event after many in-person ham radio conventions were canceled because of the COVID-19 pandemic. ARRL will be among the exhibitors filling the virtual exhibit hall.

Attendees will be able to share ideas and network with each other via the virtual platform. Following the 48-hour live event, audio/video from presentations and resources published by exhibitors will remain available to registrants on demand for 30 days.



No sooner had Samuel Morse devised his famous code than he was harassed nightly by annoying telegram marketers.



He said, "10-4" on the repeater!

More COVID-19 Changes....

From CQ Magazine



We have more cancellations and format changes to report this month due to the COVID-19 pandemic, along with one new event! The Huntsville Hamfest in Alabama, scheduled for mid-August, has been cancelled for this year; the AMSAT Space Symposium and annual meeting has been converted to a virtual event on the same weekend, October 16-18; and ARISS, the Amateur Radio on the International Space Station program, has been continuing to test its "MultiPoint Telebridge" system to allow students in a variety of locations (such as their homes) to still visit with ISS astronauts via amateur radio.

In addition, Youth on the Air in the Americas replaced its planned summer camp in late June with a series of on-air events, including "Virtual YOTA Day" on June 24 and a special event station, W8Y, which was to be operated during the week of June 21-26 from various locations by the young hams who had been scheduled to attend the camp that week. See <<https://youthontheair.org/>> for details.

Across the Atlantic, IARU Region 1's Youngsters on the Air program <<https://www.ham-yota.com/>> inaugurated monthly online meetings to discuss various topics, such as Region 1's Youth Contesting Program.

=====

Cards from here to there may be a problem for the foreseeable future. The US Postal Service says it has temporarily stopped accepting international mail for nearly 100 countries around the world due to impacts from the COVID-19 pandemic. As of June 10, mail service to 21 countries had been suspended due to "foreign postal operator service suspension" and another 75 countries were on the "do not mail" list due to "unavailability of transportation." The regularly updated list of specific countries, along with procedures for requesting a refund or remailing in the future is at <<http://tinyurl.com/sxvuqwb>>.



In a related story, the ARRL says it was experiencing 1-3 week delays in shipping member orders as of mid-May, due to restrictions on how many people at a time could be present in their warehouse and excessive demands on shipping carriers.

Here at CQ, we have experienced very slow and sporadic mail delivery. On the bright side, our offices, which have been closed since mid-March under state stay-at-home orders, were scheduled to reopen on June 15.



News from the CQ Magazine Blog

New RF Safety Rules Take Effect; ARRL Seeks Clarification

The FCC's new RF safety rules for amateurs (and others) took effect on June 1, eliminating some categorical exemptions from making evaluations, and hams now have two years in which to determine whether evaluations will need to be made for any aspects of their stations. The ARRL has filed a petition for clarification with the FCC on two elements of the amended rules, specifically relating to the 2200-meter band and to handheld portable devices (HTs). According to the *ARRL Letter*, the request centers on technical measurement requirements, noting that the standards themselves have not changed, only the circumstances under which amateurs will need to make specific evaluations.



IOTA Award Applicants May Now Use LoTW "QSO-Matching"



Islands On The Air



Participants in the Islands on the Air (IOTA) program may now use contacts confirmed in the ARRL's

Logbook of the World (LoTW) system for award credit, according to the *ARRL Letter*. However, they may not apply for IOTA awards directly through the LoTW system. The arrangement allows IOTA award managers to verify contacts through LoTW while continuing to check QSOs against known IOTA operations. For more information on using LoTW for IOTA awards, visit <http://iota-world.org>.

"Last Man Standing" Still Standing

Fox has reportedly renewed the "Last Man Standing" comedy show for a third season on the network.



The program features Tim Allen, KK6OTD, as businessman and father of three daughters Mike Baxter, KA0XTT. Mike's ham station is in the background in nearly every episode, and ham radio has occasionally played a part in a storyline. John Amodeo, AA6JA, is the show's producer.

According to *Newsline*, "Last Man Standing" is the most popular comedy on Fox, averaging more than 8 million viewers per episode. It had previously aired for several seasons on ABC. Amodeo says new episodes should begin airing next January.

Posted by CQ Newsroom



Orlando HamCation® to Host ARRL

ORLANDO HAMCATION® TO HOST ARRL NATIONAL CONVENTION IN FEBRUARY 2021



Orlando HamCation® has announced that it will host the 2021 National Convention of ARRL, the national association for Amateur Radio® in Orlando, Florida, February 11-14. The convention will mark the 75th anniversary of HamCation® - one of the largest annually held gatherings of radio amateurs in the US. The convention theme, “reDiscover Radio,” is a rallying call for radio amateurs committed to developing knowledge and skills in radio technology and radio communications.

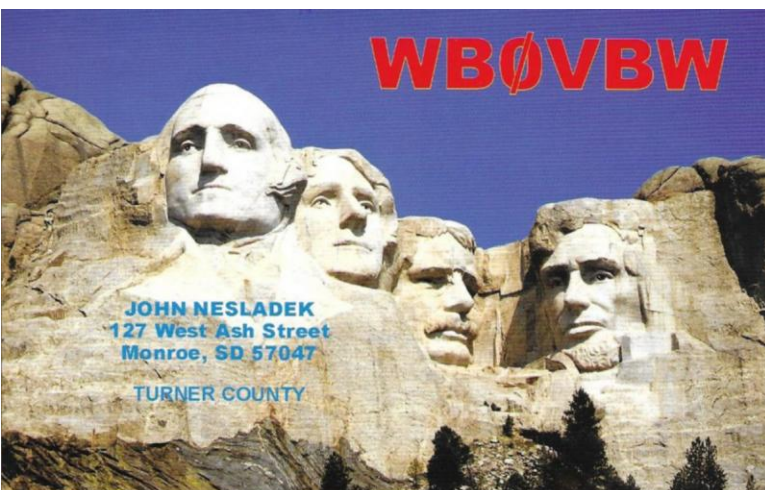
The convention will kick off on Thursday, February 11 with a series of day-long ARRL Training Tracks and a National Convention luncheon at the DoubleTree by Hilton Hotel Orlando at SeaWorld. ARRL will announce a complete program and presenters later this summer, and will open registration in the fall. On Friday, Saturday, and Sunday, February 12-14, HamCation will host the rest of the convention at the Central Florida Fairgrounds and Expo Park in Orlando - an 87-acre lakefront fairgrounds.

HamCation is sponsored by the Orlando Amateur Radio Club, an ARRL-affiliated club, and is supported by volunteers from radio clubs throughout the region. The published gate figure for 2020 was 24,200 (all 3 days). The HamCation website, www.hamcation.com, includes details on tickets and information about forums, exhibits (including information for vendors and tailgaters), testing, travel, and preferred hotels with special rates. HamCation will open online ticket sales in August, and tickets purchased (postmarked) by December 1, 2020 will be \$15 and valid for all 3 days at the fairgrounds.

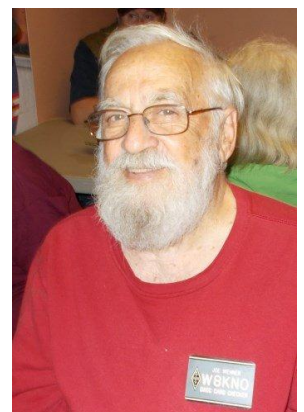
ARRL and HamCation acknowledge that this year's pandemic has introduced uncertainty into any long-term planning. Both organizations will follow all government and health requirements and guidelines as plans are committed for the 2021 event. Further details and any changes will be shared via these official websites:

- 2021 ARRL National Convention www.arrl.org/expo
- Orlando HamCation www.hamcation.com

Paper Chase - Mount Rushmore



Joe, W8KNO



With COVID still alive, the number of Special Event Stations is scarce; however, in July there is one special event that is symbolic of the United States. That is Mount Rushmore.

From 2pm till 8 pm (Eastern Daylight Savings Time), **July 3,4 and 5**; WOI will be active on 7.040, 7.268, 14.040 and 14.238. Some FT8 and PSK31 might also be possible.

For a QSL, send your QSL Card and SASE to JIM ZAHRADNICEK, 29563 US Hwy 14, Pierre, SD 57501.

Hope to hear you in the Pile-up.

Wouldn't It Be Wonderful ?

John, KD8MQ

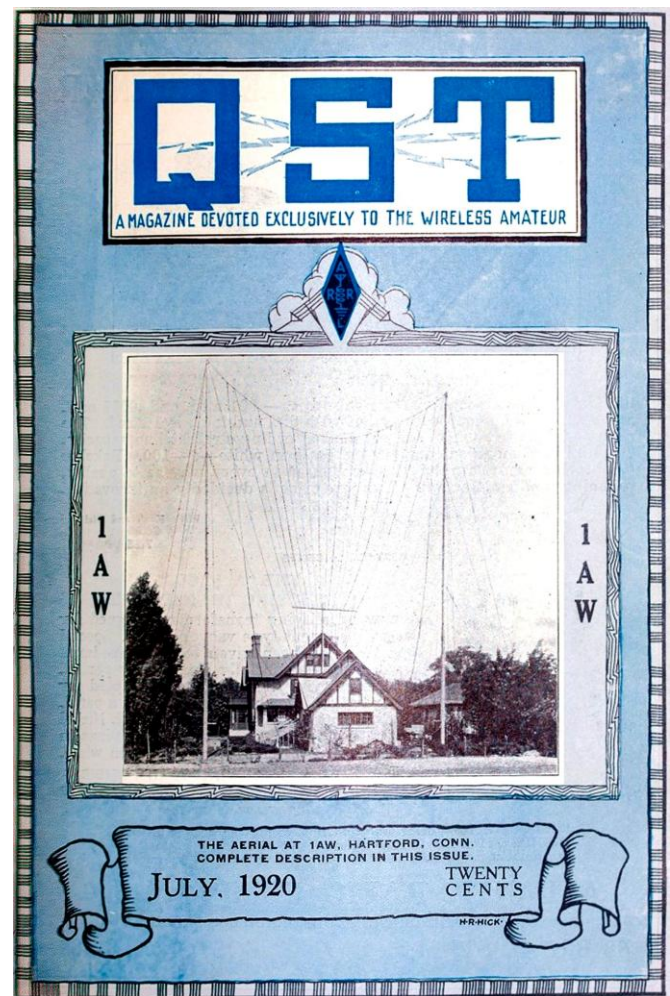


Well, this was a rough month to do a Radiogram article, but a promise made, is a debt unpaid, so here goes. I'm writing the bulk of this article in the middle of a pretty intense thunderstorm in Mt Gilead. I dare not hook up the rig till it subsides, so we'll get this article sent in, hopefully by deadline.

So, I was looking at the July, 1920 issue of QST, and saw a few things of note.

WOULDN'T IT BE WONDERFUL

- If there were no static?
- If aersials grew on skyhooks?
- If attics weren't hot in summer, and cold in winter?
- If there were no spark coils?
- If there were no fords to furnish them?
- If static was on a wave of 9,000,000 Meters?
- If the strength of the received signal varied as the cube of the B battery potential?
- If Litz were 17 cents a pound?
- If variometers were three for a quarter?
- If NPX were tuned, or didn't re-radiate, or something?
- If audiotron leads were made of litz?
- If somebody invented a non-breakable rope for hoisting aersials?
- If we could all afford Dubiliers?
- If 2GR could afford a better Victrola?
- If 2AJE would fix that rotary so it wouldn't sound as if it had only one stud?
- If you could work CW on electric light bulbs?
- If kids didn't get their kite tails caught in our aerials?
- If Woolworths V & X sold ½ KW power tubes?
- If 8ZW sent slowly?
- If 3NB were a Ham with a spark coil?
- If QST could come out daily?



Some of it plays pretty well a hundred years later, but some not so well. For instance, I believe that dubilier was a brand of capacitor, and that since spark transmission was no longer in vogue, neither were spark coils. And what better source for spark coils, but a Ford automobile of the day.

But, I have to admit, I had no idea what litz is. So, thanks to Wikipedia, here we are:

“**Litz** wire is a special type of multistrand wire or cable used in electronics to carry alternating current (AC) at radio frequencies. The wire is designed to reduce the skin effect and proximity effect losses in conductors used at frequencies up to about 1 MHz.”

OK, that explains that. I guess that’s why I’ve never heard of it, as I don’t hang out on the frequencies below 1 MHz, except when I was interested in BCB DXing as a kid.

So, I guess I won’t be running out to DX Engineering for a couple pounds of Litz. But, if I did, I bet it would cost me more than 17c a pound in 2020 dollars.



Reading on, I saw that the ARRL emblem had been approved by the board of directors at their last meeting. The insignia, described as: “*a diamond with slightly rounded corners, bearing in its corners, the letters A R R L, and containing in its center an elementary “hook-up” which is symbolic alike of transmission and reception, telegraph, or radiotelephone, spark, or C.W. – In other words, representative of us all.*”

The intent was to get a pin or button out ASAP so that one “*ARRL-Man might recognize another*”

And that’s it for me this month. Hopefully you are planning to participate in some way in Field Day (or did participate, depending on when the Radiogram goes out).

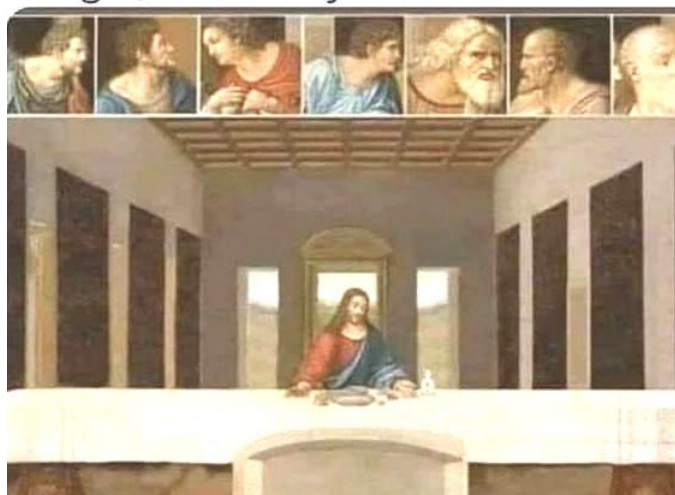
And yes, it stopped raining. I now have to go scavenge the local stores to find parts so that I can “MacGyver” a foot switch for Field Day. Otherwise, listen for **KD8MQ 1B OH** on CW.



PCARS
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“Alright, does everyone have sound?”



Swap-N-Shop

FOR SALE: Navigator Master Cable for an Elecraft KX2 or KX3 for sale. \$40.00. Reason for selling: I no longer have the radio. **AlexMic speaker mic** for Elecraft KX2 or KX3 with case. Never used. Asking \$100.00.

Contact: Call Rex, NX8G at (330)-936-2192 or email: nx8g.01@gmail.com [07/02/20]

FOR SALE: Alpha 77DX with all of the Dick Byrd upgrades. These upgrades include the following; higher voltage plate transformer providing 4300 Volts idle, 7500 Volt rectifiers, 5000 Volt 35 µf filter capacitor, wide spaced loading capacitors like are used in the 77SX, all new step start components, large 10x38mm fuse holders, all new electrolytic capacitors on timer & QSK boards as well as LED lighting for the meters. This amplifier has ZERO HOURS since being upgraded as it was my back-up amplifier. \$5000 **YAESU FT-1802** This a 50 Watt 2 meter mobile that will TX 144-148 MHz & RX 136-174 MHz with power output settings of 50W, 25W, 10W, 5W with power cord, manual & new microphone. \$85.00 **YAESU VR-120** Hand Held Communications Receiver. This YAESU hand held communications receiver is a professional grade receiver that has 640 memory channels. It covers 100 KHz thru 1300 MHz in FM/WFM and AM modes. I purchased it for special project that never materialized. It is in excellent condition since it was only used a couple of times. It comes with antenna, manual and box. Also included are two new Duracell AA batteries.

Craftsman 3 ½ Digit DMM w/ 1000 Volt Fluke Lead Set. Also includes Craftsman non-contact Hall-effect voltage sensing probe, used and in good condition \$30.00 **DC Power Cords** 6 Pin ICOM \$20.00, 4 Pin Kenwood \$15.00, Heavy Duty 12 Lighter Plug to Anderson Power Pole 4' Long \$20.00 **High Voltage Rectifiers** blocks containing (2) 10,000 Volt 1 ampere CCS diodes, great for full wave power supplies or use two for a full wave bridge, \$15.00 each.

HARGER 2-Hole Long Barrel Lug for #2 Wire These are premium grade lugs are great for tower grounding projects \$4.00 each **ANDREW GKT-F4A Ground kit strip tool** for Andrew FSJ4-50B ½" Superflex coaxial cable \$45.00

VDE Lineman Pliers News with chrome plating and 1,000 Volt insulated grips \$30.00 **Universal Snap Ring Pliers** Set Used universal snap ring plier set in excellent condition \$10.00 **HUBBELL water resistant pin & sleeve**

receptacles designed for wet locations or outdoor use in rain. I use these same connectors on the generator and power distribution panels which are used for the PCARS Field Day set up in Portage County Ohio. These are excess from when I assembled my mobile generator and power distribution system. They are both NEW IN BOX. HBL4100R12W rated 125/250 Volts 1? @100 Amperes \$175.00 HBL460R12W rated 125/250 Volts 1? @60 Amperes \$150.00 **Contactors /Industrial Relays** that would be great for step start relays in an amplifier building project. The CL25A310TJ is a three pole rated 32 Amperes @ 600 Volts and will accept #8 thru #14 wire. It has 120 Volt A.C. coil. The CV01A400T is a 4 pole rated 25 Amperes @ 600 Volts and will accept #10 thru #14 wire. It has 120 Volt A.C. coil. I have one auxiliary contact as shown in the photo. It will go to the first purchaser and will mount on either of these relays. \$40 each

STAINLESS STEEL ¼" GUY WIRE, This is left over stainless steel aircraft cable that I used in a recent tower project. I have two coils, 130' for \$85.00 & 150' for \$90.00, or both coils for \$140.00

Contact: Call or text James, KD8VT at (330)-206-4909 [10/02/20]

For Sale: Ameritron QSK-5 Pin diode T/R switch 1.5 KW. Works perfectly, in original box with manual. Sold amplifier and now run barefoot so not needed. \$300 **BITX40 40 meter SSB transceiver kit** in unopened box. Bought two and managed to build one without damaging anything so selling backup. \$30 **uBitx V3 HF transceiver kit** in unopened box. Bought two and managed to build one without damaging anything so selling backup. \$60 **Softrock V6.2 with K3 IF crystal for panadapter**. I built this years ago with the plan of making a panadapter for my K3. FREE pickup

Contact: Bob, KD8CGH at: kd8cgh@arrl.net [07/02/20]

For Sale: Hi-Z SIX Direction Triangular Array Receive System – Including THREE DX Engineering AL24 Vertical Elements. Most components are new/not used. Package consisting DXE p/n HIZ-3-LV2-50 6 Direction Array System and 3 (three) of part number DXE-AL24 Vertical element kits. Hi-Z Antennas Triangular Array Systems offer 6 selectable directions of improved, low-noise receive performance and 30 dB front-to-back directivity for the 160, 80 and 40 meter bands, with useful reception from below the AM broadcast band through 30 MHz. \$650

Contact: Mark, W8BBQ at: W8BBQ@AOL.COM or text to 330-770-5442 [08/02/20]

For Sale: Yaesu FT-1000MP AC Version(No power supply required), great contest or DXing radio - excellent condition with operator manual, has extra crystal filters and inrad roofing filter installed. \$750.00 **Yaesu FTDX5000MP Limited** - 200 watt 160 thru 6 meter transceiver - AC powered, 300 Hz / 600 Hz / 3 KHz roofing filters, two independent

receivers, operator manual, with custom equipment cover and Nifty Accessories reference guide. In like new condition, original boxes, \$2995.00 Can demo these transceivers at my station, local pickup preferred, will deliver up to 50 miles

Contact: George, K3GP at: 330-829-9504 evenings or weekends. [08/02/20]

FOR SALE: ICOM IC-7610 - Brand New, *still in the box*. Decided to upgrade antennas instead of radio. Un-opened box \$2599. **RC-28 - Remote Encoder** for the IC-7610 to easily operate the second VFO - Brand new - **\$200.** **8 Switch Memory External Keypad for the IC-7610/7850/7851.** Instant access to the 8 stored outgoing messages. Made in Germany by DM2RM. Brand new - \$60. **Cushcraft Ten-3** Three element **10 meter beam**. Cost new \$299.95 - **Sell for \$150.00.** This beam helped me make 7,651 ten meter contacts on a tripod on my roof. Great shape & ready to use. Had the roof replaced and took down the antennas. Will be putting up tower and Opti-Beam antennas - if the ground ever dries out..... well, maybe in Spring or Summer..... **Contact: Tom "Parky", KB8UUZ** - kb8uuz@gmail.com [08/02/20]

PCARS Patches & Stickers



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

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



and Blue. Cost for a patch is only \$2.00 each and can be obtained at any PCARS meeting. There are 2 types of stickers available - a 4" x 6" oval and a 3" x 10" bumper sticker. Stickers are \$1 each. Show your pride in PCARS - Wear a patch, use the stickers! See the club Treasurer: **Paul, KE8EGF** or e-mail him at: phyland@neo.rr.com

Happy Birthday PCARS Members

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

AB8IE Ken Westover

AC8QG Nick Wagner

G0BPS Dick Pascoe

KD8EPA Dan Porcase

KE8HTL Mark Woessner

KE8IED Ian Warring

KE8LWN Dennis Daniels

KE8MXR John Lopez

N2KWW James Harbert

N4PKW Rod Thompson

N8FTP Larry Cole

N8HUC Karen Andrews

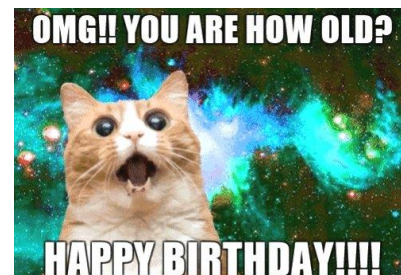
N8QZ Paul Mitchell

W3CDG Cory Gibson

W8KUZ James Kuzman

W8PT Chuck Patellis

WB9LBI Bill Fraedrich



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



From the ARRL Ohio Section Manager



Scott, N8SY
ARRL Ohio Section Manager



Has this been a week of hot weather? Wow. I can remember just the other day when it was only in the 50's and rain in the forecast every day!

The construction zone has disappeared in the front of our house. I have to admit it, it does look beautiful. It's quite a change from the old concrete sidewalk and front porch.

Now, I just gotta' get the riding mower fixed. It's still in the shop with an expected date for them to work on it around the first of August! Wow... I am seriously thinking of trying to mow this big lawn with a self-propelled mower.

Oh, by the way, I haven't reported on the robot mower the neighbor has lately. It's still climbing trees and making a mess out of the neighbor's backyard. Oh well, at least it is HIS yard looking like a goat had been there, mine just looks overgrown. I guess we both aren't expecting to get into the "House Beautiful" magazine any time soon!

I have been asked by a number of folks about the governor's proclamation that we usually get. Unfortunately, we most likely won't be getting one this year. The folks that Bob, W2THU contacted several months ago at the statehouse told him that they are only concentrating on the COVID-19 situation. They did promise if things opened up that they would do it, but so far it doesn't look like the state building will be opened in time for them to get this done for us this year.

Whelp, my final go around before gong QRT... Stay safe my friends! I want to see all of you soon at a meeting or hamfest! We will get through this and when we do, we'll have so much to talk about. Most of all... have FUN and get on the airwaves!!



Battling the Radio Beams



Radio Society of Great Britain
Advancing amateur radio since 1913

The following feature article "*Battling the Radio Beams - Part 1*" was originally published in the May 2020 issue of RADCOM - the official magazine of the Radio Society of Great Britain (RSGB). I contacted Elaine, G4LFM at the RSGB and was granted permission to re-print this feature article in the PCARS newsletter.

Part 2 will be in the August issue of The RADIOGRAM.

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Battling the Radio Beams

Part 1: Headache and Aspirin

In this modern age of GPS and precision long-range radar, it's difficult to imagine the difficulty of navigating an aircraft at four miles a minute in darkness across blacked-out enemy territory using only dead reckoning, star fixes and maps.

Thus it was hardly surprising that during WW2 the Luftwaffe adopted radio methods to guide night bombers to their targets in Britain. The story of the secret and silent 'battle of the beams' between the attackers who developed these specialised systems and the defenders who strove to disrupt them is one of the most fascinating in the history of short wave radio. It is a drama in which British radio amateurs played a pivotal role

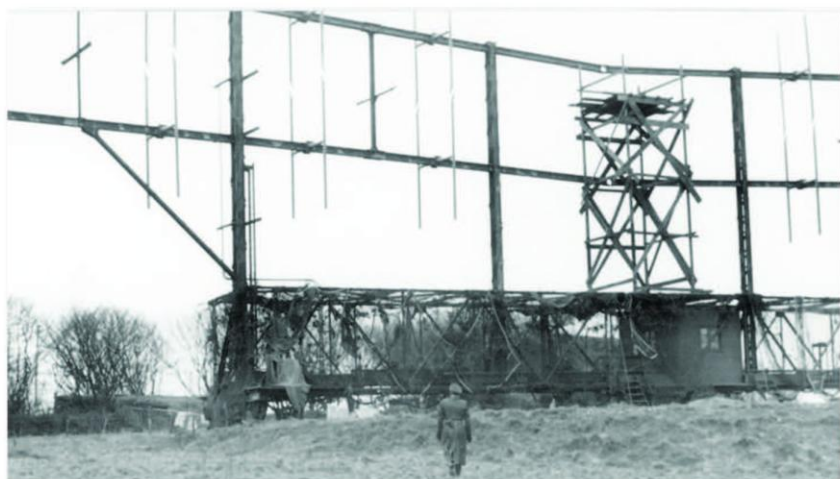
Lorenz

On 28 October 1939, in the first air raid on Britain in WW2, a Heinkel He 111 medium bomber was shot down by a Spitfire of 602 Squadron over the Firth of Forth. When the plane's radio equipment was taken to RAE Farnborough for examination, the technicians were surprised to find that the Lorenz blind approach receiver from the aircraft was a 7-valve superhet of much higher sensitivity than the 2-valve straight set that was adequate for normal service. Later, captured aircrew from another He 111 were overheard saying that no matter how diligently the British searched their plane they would never find their bombing navigation equipment, implying that it would be overlooked because it was right under their noses.

The blind approach system had been developed by the Lorenz Company in Berlin long before the outbreak of war and it had been installed at many airfields throughout the world. The system initially used motor-driven switches to modulate the antenna lobes of a 120W 33.33MHz MCW transmitter located at the end of the runway, such that if an aircraft were to the right of the approach path it received a series of 1150Hz tone 7/8-second dashes, whereas if it were to the left it received 1/8-second dots. The dots and dashes were synchronised, so that directly on the correct flight path they merged in an equisignal zone



The Knickebein beams from Kleve and Stollberg could be directed to intersect over targets such as the Rolls-Royce aero-engine factory at Derby. (Image: Dahnielson/cc by-sa 3.0).



August 1941 photo of part of a 60m-high Knickebein transmitter antenna, possibly in Halinghen, Hauts-de-France. (Image: Bundesarchiv, Bild 101I-228-0322-04 / Friedrich Springorum / CC-BY-SA 3.0).

to form a continuous tone. Was it possible that this popular commercial system had been modified to serve long range military purposes?

Initially the responsible civilian Air Ministry official, talented young Assistant Intelligence Director Reginald Jones, was advised by the Marconi Company's propagation expert that a system operating at frequencies above 30MHz couldn't be used to guide bombers over Britain, since such short wave radiation wouldn't bend sufficiently around the curvature of the earth. (Phenomena such as tropospheric ducting were not well known at this time). Indeed, the maximum range of the standard Lorenz system was only about 30 miles but an enthusiastic radio amateur, Rowley Scott-Farnie, G5FI, convinced Jones that it should be possible to extend the range by the same techniques that were used by radio amateurs to achieve DX communications. Using a much larger ground antenna with a narrower beamwidth, higher transmitter power and more sensitive receivers he believed that at least high-flying planes could be able to use a modification of the system in the reverse direction for long range navigation. He also suggested that the frequencies of 30, 31.5 and 33.3MHz might be used, since these were the frequencies to which the Lorenz receivers from crashed Heinkel's were found to be tuned.

The crooked leg

The first clear indications that the Germans might have deployed such a blind bombing aid came from coded messages intercepted by the Y Service, which was largely manned by pre-war radio amateurs and by radio amateur Voluntary Interceptors (VIs). Arthur Watts, G6UN, President of the RSGB from 1938 to 1940, assisted in recruiting over 1000 VIs. They used their skills to copy weak Morse code enemy radio messages from their own homes, often with homebrew receivers. When these messages were decrypted by the code breakers at Bletchley Park, one was found to read "Knickebein at Klevé is confirmed at point 53°21'N, 1°W." Significantly, the town of Klevé is near the western frontier of Germany in the part closest to Britain; Jones guessed that the message reported that a radio beam from there had been checked as crossing England at the geographical location specified, which is near Retford in Nottinghamshire. The name Knickebein ('crooked leg') suggested a system that employed two directional radio beams intersecting at an angle over a target, although it was later discovered that it actually referred to the 165° angle of the dual-beam antennas used at the transmitters. The first Knickebein antennas at Stollberg, Klevé and Maulburg were nearly 31m high and mounted on 90m diameter circular railway tracks to permit aiming.

The Y Service also successfully eavesdropped on Luftwaffe airborne communications, some



Restoring an aircraft Knickebein system (foreground). Left: EBL2 signal processing unit; Middle: EBL3 superhet beam receiver; Right: U8 210V HT rotary converter. (CDV&T and Hans Goulloze).

of which were in plain language. Surprisingly, some messages used the international Q-Code familiar to radio amateurs, even including abbreviations in English (such as 'RPT' for 'I repeat')! Additional evidence was gathered from fragments of paper and wireless operators' logs recovered from Luftwaffe aircraft that had been shot down over Britain. One airman who had bailed out from his crippled aircraft was captured as he was trying to bury the pages of his notebook, which he had torn into hundreds of pieces. When the jigsaw was laboriously reconstituted, it was found to include a table giving the positions of transmitters at Klevé and Bredstedt, with their operating frequencies of 31.5 and 30MHz.

Many experts remained sceptical about the idea that Luftwaffe bombers were navigating by radio beams. Arthur Harris, later the head of RAF Bomber Command, was positively scathing since he thought that any skilled aircrew could find their targets without such paraphernalia. He changed this view when in August 1941 the Butt Report revealed that actually fewer than one RAF bomb in ten fell within five miles of its intended target. But Churchill himself had scientifically literate advisors and he was convinced by Jones to authorise a few exploratory flights to search for beams. At the time the RAF didn't have any general coverage receivers for these frequencies, so Jones sent one of his civilian team to Webb's Radio in Soho. Masquerading in a hired uniform, he successfully requisitioned their stock of Hallicrafters S-27 amateur radio sets, promising that the Air Ministry would pay for them later. The S-27 was a 15-valve AM/FM/CW superhet that covered 27 to 143MHz in 3 bands. An advanced receiver for the time, it had variable selectivity and used miniature acorn valves for the RF amplifier, oscillator and mixer, utilising an IF of 5.25MHz. The receivers were installed

in aircraft at the Blind Approach Development Unit at Boscombe Down, which had aircrew with much experience of beam flying. They were modified to run on the aircraft's 28V DC supply and skilled pre-war radio amateur members of the Y Service were posted there to operate them – they were designated as 'Special Wireless Operators'.

On 19 June 1940 an old twin-engined Mk 1 Avro Anson took off from RAF Wyton to search for beams. As bad luck would have it, the vibrator HT supply of the S-27 receiver developed a fault on the first flight, while on the second night the Luftwaffe made no sorties. Although there were calls for the search attempts to be abandoned, one more flight was authorised on the night of 21 June and this time a 31.5MHz beam from Klevé was located about one mile south of Spalding in Lincolnshire. The Anson then flew along it until the operator picked up a crossbeam from Stollberg. He discovered that the beams intersected over the Rolls-Royce factory at Derby, which made the Merlin engines for Spitfires and Hurricanes. The seriousness of the threat was now apparent and the RAF appropriately code-named the enemy beam system 'Headache'. When Fighter Command Chief Hugh Dowding was asked what should be done, he replied in one word: "Jam!".

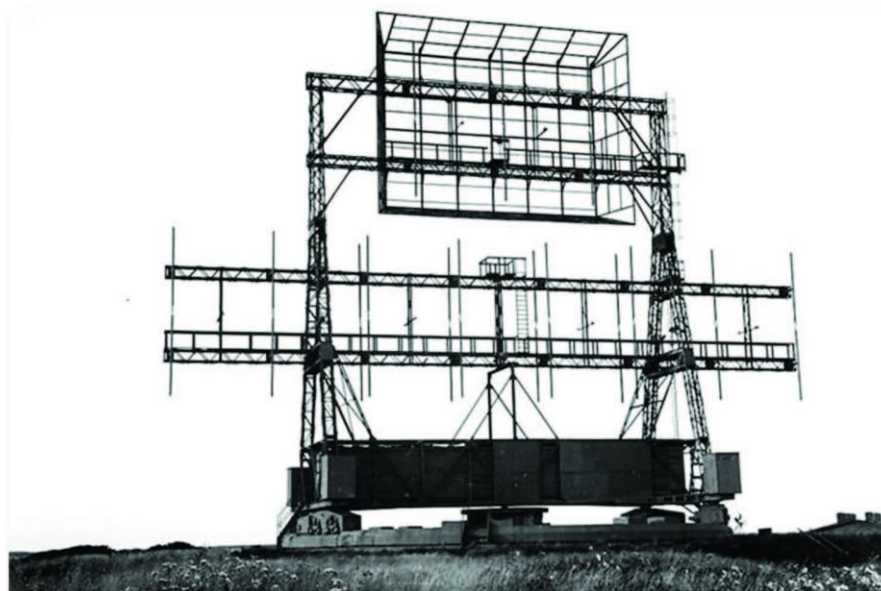
80 Wing

In August 1940 a radio countermeasures unit called No 80 (Signals) Wing was formed by signals specialist Edward Addison to provide

Dr Bruce Taylor, HB9ANY
bgtaylor@ieee.org



Front panel of a Hallicrafters S-27 receiver.



After the occupation of the Netherlands and France, more compact second-generation 45m-wide FuSan721 Knickebein antennas could be used, as they could be sited nearer to Britain.

electronic intelligence and counter the German beams. Its motto was "Confusion to Our Enemies". The Wing Headquarters was established in the Aldenham Lodge Hotel in Radlett, a village about 14 miles north west of London in convenient proximity to the London/Birmingham GPO trunk cable. It was linked directly to the Fighter Command Operations Room at Bentley Priory in Stanmore. The old Lodge was infested with rats and cockroaches but it had a swimming pool, rather a rare asset for a WW2 RAF base!

Because of their technical experience, resourcefulness and ability to improvise solutions rapidly, many British radio amateurs served in this unusual unit, with the General Secretary of the RSGB, John Clarricoats, G6CL, acting as a 'Recruiting Sergeant'. Fifty BBC radio engineers also joined and within a year Addison had built up monitoring and jamming systems at over 120 outstations throughout the country. By September 1941, 80 Wing had a strength of 2000 men and

women of all ranks. A staff of 27 WAAFs was engaged to use 242 telephone lines to connect the Radlett HQ with the outstations.

Before specialised systems to counter Knickebein could be built, Addison's team improvised makeshift jammers by commandeering 150W 27.12MHz diathermy sets from local hospitals. These were converted to RF power amplifiers and driven by small transmitters made at the Peto Scott factory to emit radio noise on the Knickebein frequencies. Two sets were installed in vehicles that could rapidly be despatched to any target area. Others were installed in dispersed police stations, which were alerted by telephone from Wing HQ when they were required. One village bobby put a set in his bedroom, where his wife could switch it on if he was out on his beat at the time of a call.

The Rediffusion factory in south-west London produced a number of powerful jammers very rapidly by converting the 2kW audio amplifiers on their production line into radio transmitters.

80 Wing also modified eight RAF Lorenz airfield approach transmitters to radiate fake beams across the Knickebein ones to induce the attacking planes to stray off course, or to drop their bomb load in open country before reaching the target.

The Air Arm of 80 Wing, which later became 109 Squadron, carried out regular flights to locate the radio beams. To narrow the search area for the Ansons, manned receiving stations were set up by lashing garden sheds to the tops of the towers of a few selected Chain Home radar stations. Braving the freezing cold in these high level shacks, the listening operators could indicate to Wing HQ the Knickebein frequencies that were being used on any night, and to which side of each station the beams lay. Knowing the antenna patterns of the Knickebein transmitters and their locations, the information from several such receiving stations could be combined to estimate the bearings of the main lobes. Since the beams were often turned on well before each night attack, this gave time to identify the probable target and set up the jammers.

Meanwhile a more sophisticated antidote for Headache was being developed by Robert Cockburn and his team at the Telecommunications Research Establishment (TRE) in Worth Matravers, which included Martin Ryle, G3CY. This countermeasure was aptly named 'Aspirin'. When a Knickebein raid started, the 500W Aspirins netted on to the frequency and transmitted dashes with the same modulation tone at exactly the same rate as the real transmitter. When the jamming signal was strong enough, pilots on the correct track continued to hear dashes, causing them to diverge from it. This even resulted in several bombers flying in circles; navigation became so unreliable that by mistake some German bombers landed in England instead of at their home bases. At least one inexperienced young bomber crew, who hadn't been taught to navigate at night without the Knickebein beams, bailed out from their plane when they found they were jammed.

When the start of systematic Aspirin jamming revealed that Knickebein had become well understood by the RAF, many German bomber pilots preferred to keep out of the beam since they feared (mistakenly) that night fighters or aerial mines might be waiting for them all along the route to the target. This psychological effect may actually have caused more disruption than the jamming itself. By the autumn of 1940 raiders no longer considered Knickebein usable enough for target identification, although it was several months before the young German pilots plucked up the courage to tell Göring that the system was useless. However, as we shall see in Part 2, the German Aviation Research Institute (DVL) had been developing another highly secret and much more accurate VHF radio beam system that would soon be used by the Luftwaffe with devastating effect.

Flex Net

Mike, N8WCP



The PCARS Flex Net is open to all hams and will be held on the second Wednesday of the month at 8:00 PM. Each month we'll use a different band or mode. This net does not replace the weekly Thursday night 2 meter net so keep checking into that net!

The Flex Net will begin with a typical check-in process. Once check-ins are complete, each station will have the opportunity to work the other stations similar to a DX net. Since we're working simplex, it would be helpful to have alternate net control ops. If you're interested in being an alternate control op, please email me at n8wcp.us@gmail.com.

Below is the tentative net schedule which is subject to change. We'll use the K8IV 146.895 repeater as backup in case we need to move off the scheduled frequency so please monitor the repeater at net start time. Let's have some BIG FUN!



DATE	TIME	BAND	FREQUENCY	MODE
07-08-20	8:00 P	20 M	14.325	USB
08-12-20	8:00 P	6 M	50.135	USB
09-09-20	8:00 P	40 M	7.220	LSB
10-14-20	8:00 P	2 M	146.400	FM
11-11-20	8:00 P	80 M	3.910	LSB
12-09-20	8:00 P	6 M	50.400	AM



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Field Day 2020 - How Did YOU Do?

As we all know, this will be a Field Day to remember.

So, how did you do? Where did you participate from: home, in a park, mobile? I hope you took some photos!!!

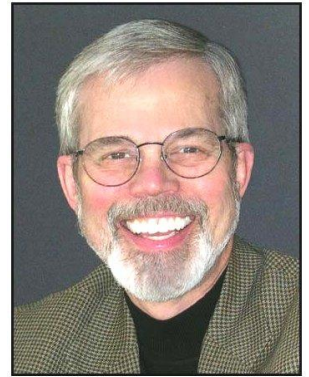
Send in your stories and photos so they can be shared in the next issue of The RADIOGRAM. Send your Field Day story to kb8uuz@gmail.com. Please send it in .TXT (text) format and include the photos (large format & in-focus) as attachments to the e-mail.

I'm looking forward to your inputs for our next newsletter !!!



Hustler 5-BTV Project

Fred, K8IG



We all well know that the Corona Virus of 2020 has certainly altered our lives, our finances, our health, our social postures, our work schedules and perhaps even our hobby time. Hopefully, our portfolios remain optimistically healthy, our personal health remains unaffected and that we are finding more time for amateur radio. I am and I'll share a recent story.

The story begins now three years ago at the Dayton Hamvention (the first in Xenia) when, among other goodies, I bought a New-Tronics Hustler 5-BTV. This antenna was intended to replace a Cushcraft R-7 that had ultimately succumbed to long-term ultraviolet damage and water entry to the balun box (that final kilowatt use must have created quite the light show...arc!). The R-7 was a bit gangly and really cried out for guying...which I never did. That's the back story.

Now to the 5-BTV. As most of you know, this is a 5 band (10, 15, 20, 40 and 80) meter trapped vertical that can be ground mounted or elevated. I chose ground mounting on a five foot (3' in the ground and 2' above grade) 2" galvanized pipe (top capped). The antenna is mounted on the side of our home just in front of a conifer tree (not ideal) as revealed in the picture but was the only "approved" location. Parenthetically, mounting the antenna alongside of - or in close proximity - to our home would be less than ideal because that house elevation is aluminum sided. Supplementing the antenna is a DX Engineering radial plate at the base of the mounting pipe (mast) and a DX Engineering tilt-over mount that facilitates assembly and tuning. This location limits uniform radial distribution so I have about forty various length radials that are largely deployed in two polar directions (north and south). See the picture. And, after returning from the 2017 Hamvention, I quickly installed the mounting pipe, radials and feed line.

Following the instructions (of so I thought) I tuned the antenna using a tape measure, wrench and an MFJ-259 antenna analyzer. Of course, we know that real men and real "hams" don't really read the instructions. The message here is to read and fully understand the instructions. Let me explain. The traps used on this antenna are LC traps with the "L" portion supplied by wound coils (for 10, 15 and 20 meters). The 80 meter coil is an add-on coil installed at the antenna top. The "C" portion is accomplished with the surrounding (and protective) cans that are hose clamped at the trap base and that slip into PVC caps that insulate and seal against water entry, the upper portion of the trap. If one were to actually read the instructions the reader would be cautioned **in bold print** to not adjust the clamp at the trap base when tuning the antenna.

Unfettered by instructions, I proceeded to "tune" my antenna by adjusting any and all of the clamps to achieve the best VSWR readings that I could attain. By this time, you likely suspect that I really didn't achieve satisfactory VSWR values or antenna performance. Two years passed and here we are struggling with the Virus. So what was Fred to do?

First, I visited the New-Tronics website and secured the latest version of the instructions (which, to my dismay and private but now public embarrassment, remained unchanged). Now, using the Rig Expert AA-230 Zoom analyzer and my "new" instructions, I proceeded with emboldened vigor to tune the antenna but with disappointing results. What to do? Go directly to the source I reasoned. My call to New-Tronics was delightfully greeted by Candie who then directly connected me with



their technician, Mike. Mike, it turns out, is both a very patient and valued resource who explained how to tune the traps and of course, the larger antenna. By the way, for those hams who actually read instructions, the New-Tronics website also has a page explaining the trap tuning procedure (which, when read with care) is really helpful).

Cutting to the chase as they say, tuning the traps is really the key to antenna performance as you would imagine. Tuning the traps is not a, pardon the pun, a “ham-handed” effort. The LC trap relationship is very delicate and adjustment of the trap cans requires very small (almost infinitesimal) movements of the trap clamp and can. The process starts with the 10 meter trap, proceeding to the 15 meter trap and then the 20 meter trap. Proper tuning of each successive trap is critical to overall antenna performance. The 80 meter trap is really adjusted by cutting the top end whip to the desired frequency (I like 3885 for AM operation).

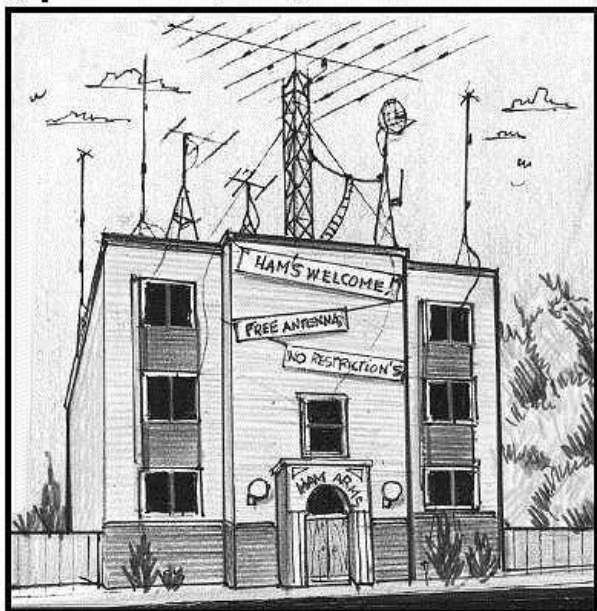
Having just completed finessing the antenna traps, I am absolutely delighted with the VSWR curves, I am hearing band activity that I suspect I could not have previously heard and this may well be my go to antenna for 15 meters. Of course, the “on the air” performance will be the final and best test of performance. However, the reports of this antennas performance will have to wait for another Newsletter or our next Chapter meeting. Meanwhile, anyone of you with a Hustler 4-BTV, 5-BTV or 6-BTC who doesn’t care to read the instructions and would like some “experienced” help in tuning your Hustler antenna, I stand at the ready to help.

Of course, there’s also another option that I discovered ex post facto. As it turns out...and why should I be surprised...that DX Engineering’s website has a nicely written and informative guide for those who really wish to read instructions. Here’s the link to that DXE guide: https://static.dxengineering.com/global/images/instructions/dxe-btv-inst-ins_oh.pdf

Stay safe and enjoy your family and amateur radio.



Apartments For Rent



“Looking For an Apartment Where You Can Put Up an Antenna? — Dream On!”

Krispy Kreme are giving away a free face shield with every 12 doughnuts 👍 it even carries the warning “contains nuts” 😂😂😂



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.**

Don't forget - 4th Thursday is NET NIGHT at the Virtual Club Site !!

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.

July	
2	N8QE
9	WB8LCD
16	KA8TOA
23	N8AMY
30	K8IV

August	
6	K8YLK
13	WB8LCD
20	K8CAV
27	WD8WCK

September	
3	
10	
17	
24	

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

If you have not been a Net Control Operator for PCARS and would like to give it a try, please contact me at: gregory999@roadrunner.com everyone who is a club member is welcome to have a turn - and have fun being the PCARS Thursday Night Net Control !

Hi everyone Please be safe and enjoy playing Radio this month. I would like to thank everyone for running the nets and checking in. Hope you are all well and staying safe. The following is a list of 14 names for the 10 consecutive award check-ins:

Mat KN4GNY
Amy N8AMY
Bob K8FEY
Mike KB8TUY
Paul KD8BXY

Zach KE8NMY
Joe K8HTB
Eva KE8NWR
Brian KE8NMC
Mark KC8FQV

Tom WB8LCD
Jenny KD8LIR
Rick KD8WCK
Mark KE8NMZ



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



Portage County Amateur Radio Service



K8BF

2018 Hamvention® Club of the Year

Field Day - K8CAV Style



Rick, K8CAV
Field Day Flex Station Captain



A lot of us are bummed that we can't do Field Day as a club, the way we've done it in the past. The ARRL recognized that in many cases Clubs would choose not to gather as they did and came up with a couple of rule changes to accommodate that. Knowing that a large number of amateurs would operate individually from their home stations, they relaxed the rule for Class D stations this year to allow them to add other Class D contacts for points, in addition to the other allowed classes. They also agreed to publish in QST a Club Score consisting of an aggregate of all stations that submitted a Field Day Entry that listed that club name in their summary sheet. What that means is that if ten individual stations submit a Field Day Entry for their participation, with Portage County Amateur Radio Service listed as their club, the total score of all ten stations would be reported and published in QST for Portage County Amateur Radio Service. We get to see names and scores for both us individually and for our club, published in the December issue of QST, pretty cool beans!

So what's K8CAV have in store for Field Day? Well to start with, phone on 40m and 20m. I've never had the chance to do that at the Flex Station and it should be fun! I'll also be looking for phone openings on 15m and 10m, given that those bands have been a bit more open of late.

Digital's always been my cup of tea and I've done a few things to enhance the digital operation. I purchased a copy of N3FJP's logging software and have loaded the Field Day version on my laptop. By itself that takes care of phone contacts. Fldigi and WSJT-X both have logging capability in their respective programs but that presents two problems. At the end of Field Day I'd have to combine the logs from N3FJP (phone), fldigi, and WSJT-X a messy procedure at best. Also, both fldigi and WSJT-X are digital modes and with individual logs there's no way to know if there are dupes between the two. To solve both of these problems I decided to investigate integrating all logs into N3FJP. For fldigi, the process was actually (almost) pain free and worked pretty well. WSJT-X, on the other hand, is a bit more complex in that it needs an intermediary program to be installed and configured with all kinds of computer geeky stuff. As I write this I have everything downloaded and I'm pondering the instructions and settings to make it all work. I hope to report success

And let's not forget Bonus Points! Just because we're operating from home doesn't mean that we can't claim certain bonus points. And remember a point for you is also an aggregate point for **Portage County Amateur Radio Service**. In case you're wondering why I keep saying Portage County Amateur Radio Service instead of PCARS like we all normally do when referring to our club, it's because the club name on your submission must be exact and the board decided on Portage County Amateur Radio Service. Remember to watch your spelling and capitalization! Anyhow yes Matilda, you do qualify for some bonus points! Available to class D stations are 7.3.2 Media Publicity, 7.3.5 Message to Section Manager, 7.3.6 Message Handling, 7.3.9 W1AW Bulletin, 7.3.10 Educational Activity (3 or more participants), 7.3.11 Site visit by Elected Official, 7.3.12 Site Visit by Representative of Agency, and 7.3.14 Web Submission of Field Day Entry. For detail on the above see the sections cited in the 2020 Field Day Rules.

Last I'll be helping Tony, WA8AR at the club site for those who signed up to operate there. I intend to have a great Field Day weekend in the spirit of PCARS Field Day past, and I hope you all do as well!



PCARS IO Group

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

Check out the PCARS IO Group at:

<https://groups.io/g/PCARS>

Two things every member should do.

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



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

Home Messages Hashtags

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

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

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

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

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

Contest Calendar

July Contest Calendar	
Contest Name	Times
RAC Canada Day Contest	0000Z-2359Z, Jul 1
IARU HF World Championship	1200Z, Jul 11 to 1200Z, Jul 12
CQ Worldwide VHF Contest	1800Z, Jul 18 to 2100Z, Jul 19
North American QSO Party, RTTY	1800Z, Jul 18 to 0600Z, Jul 19

YES - There are MANY More Contests out there - Check the internet.

Contests that will be active at the PCARS Club Site in 2020	
<u>NOTE: All Contest Activities from Club Site</u>	
<u>Subject To Cancellation Check Web Site for Updates</u>	
Date	Contest
Jul 18-19	North American QSO Party-RTTY
Aug 22-23	Ohio QSO Party & BB-QSO Party
Sept 19-20	Washington State Salmon Run
Oct 3-4	California QSO Party
Oct 10-12	Pennsylvania QSO Party
Oct 17-19	New York & Illinois QSO Parties



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



New 'sun clock' quantifies extreme space weather switch on/off

- 200 years of sunspot observations used by University of Warwick researchers to create 'sun clock'
- Sun clock pinpoints times of sharp switch on and off of high solar activity and space weather
- Earth geomagnetic observations reveal only 1-3% of extreme space storms over the last 150 years occurred in the quiet period of the solar cycle clock
- Will assist planning for space and ground-based infrastructure sensitive to space weather

Multiple cycles of the irregular, but roughly 11 year cycle of solar and geomagnetic activity is mapped onto a regular solar cycle clock with increasing time read clockwise. Extreme space weather events can significantly impact systems such as satellites, communications systems, power distribution and aviation. They are driven by solar activity which is known to have an irregular but roughly 11 year cycle. By devising a new, regular 'sun clock', researchers have found that the switch on and off of periods of high solar activity is quite sharp, and are able to determine the switch on/off times. Their analysis shows that whilst extreme events can happen at any time, they are much less likely to occur in the quiet interval.

The clock will help scientists to determine more precisely when the risk for solar storms is highest and help to plan the impacts of space weather on our space infrastructure, important since the next switch on of activity may be imminent as solar activity moves from its current minimum.

Published in *Geophysical Research Letters* by a team led by the University of Warwick, the sun clock uses the daily sunspot number record available since 1818 to map solar activity over 18 solar cycles to a standardised 11 year cycle or 'clock'. No two solar cycles are the same, but using a mathematical technique known as the Hilbert transform, the researchers were able to standardise the solar activity cycle for the first time.

The clock revealed that the transitions between quiet and active periods in solar activity are sharp. Once the clock is constructed from sunspot observations it can be used to order observations of solar activity and space weather. These include occurrence of solar flares seen in X-ray by the GOES satellites and F10.7 solar radio flux that tracks solar coronal activity. These are all drivers of space weather on the Earth, for which the longest record is the aa index based on magnetic field measurements in the UK and Australia going back over 150 years. All these observations show the same sharp switch on and switch off times of activity.

Once past switch on/off times are obtained from the clock, the occurrence rate of extreme events when the sun is active or quiet can be calculated.

Lead author Professor Sandra Chapman, of the University of Warwick's Centre for Fusion, Space and Astrophysics, said: "Scientists spend their lives trying to read the book of nature. Sometimes we create a new way to transform the data and what appeared to be messy and complicated is suddenly beautifully simple. In this instance, our sun clock method showed clear 'switch on' and 'switch off' times demarcating quiet and active intervals for space weather for the first time.

"Large events can happen at any time, but are much more likely around solar maximum. By cleanly ordering the observations we find that in 150 years of geomagnetic activity at earth, only a few percent occur during these quiet conditions.

“The ability to estimate the risk of a future solar superstorm occurring is vital for space and ground-based technologies that are particularly sensitive to space weather, such as satellites, communications system, power distribution and aviation.

“If you have a system sensitive to space weather you need to know how likely a big event is, and it is useful to know when we are in a quiet period as it allows maintenance and other activities that make systems temporarily more fragile.”

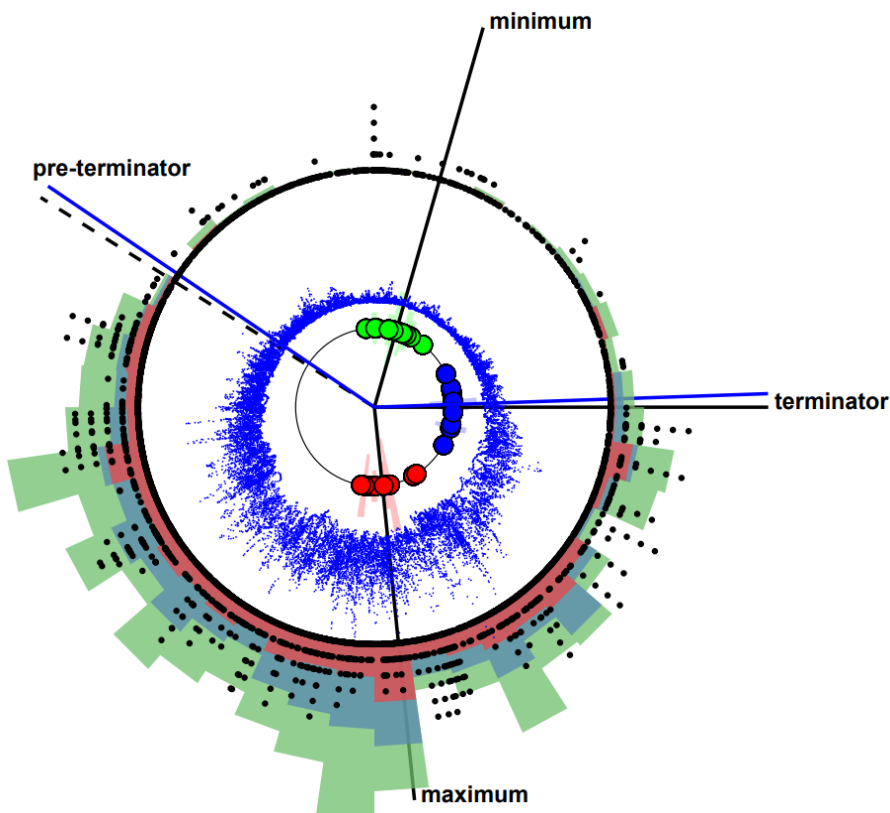
The research was co-authored by Scott McIntosh of the National Center for Atmospheric Research, Robert Leamon of the University of Maryland and NASA's Goddard Space Flight Center and Nick Watkins of the University of Warwick and London School of Economics and Political Science.

Robert Leamon said: "The Hilbert transform is a really powerful technique across all of science. Sandra suggested it to me on a completely different project - this really is a serendipitous chain of events - because of her work in lab fusion plasmas, and when we applied it to sunspots, we saw it tied to the sharp switch-on of activity that we'd seen elsewhere. Sandra then saw the switch-off looking at the aa index."

Scott McIntosh said: “We foresee that the door that this innovative work opens will lead to development of meaningful climatologies for solar activity and improved predictability that will result from that.”

‘Quantifying the solar cycle modulation of extreme space weather’ is published in Geophysical Research Letters, DOI: <https://doi.org/10.1029/2020GL087795>

Caption: Multiple cycles of the irregular, but roughly 11 year cycle of solar and geomagnetic activity is mapped onto a regular solar cycle clock with increasing time read clockwise. Circles indicate the cycle maxima (red), minima (green) and terminators (blue). Measures of solar activity are the daily F10.7 solar radio flux (blue), and GOES X-class, M-Class and C-class solar flare occurrence plotted (red, blue and green scaled histograms). Extreme space weather events at earth seen in the aa geomagnetic index are shown as black dots arranged on concentric circles where increasing radius indicates aa values which in any given day exceeded 100, 200, 300, 400, 500, 600nT, large events appear as ‘spokes’. The clock identified when activity switches on at the terminator and switches off at the pre-terminator (blue lines).



This work was supported by the Department of Physics at the University of Warwick. University of Warwick - Coventry, CV4 7AL, UK. This material is based upon work supported by the National Center for Atmospheric Research, which is a major facility sponsored by the National Science Foundation under Cooperative Agreement No. 1852977

<https://warwick.ac.uk/newsandevents/pressreleases/off>

Thanks to Paul, NO8D for sending this in for our newsletter.

Charlie the Tuner's HF High-Lites

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



Greetings to all DXers:

Happy July to you all. Hope you are going to have a happy and safe July 4th. I'll be celebrating my 73rd on the 4th. Yup, I'm one of those firecracker babies. (Cash will do just fine! HiHi) Anyway, hope you will take advantage of the some of the good WX we have been having. Especially if you have found a way of beating the heat while keeping out of the rain. Did I mention "good WX"? I am hoping that I can be on the air from my QTH very soon. I'm afraid I've stated to forget how to call CQ. Hope it come back to me soon.

There seem to be more DX events starting to happen as exhibited by the listings you'll find below. So let's take a look at what will be taking place in July and also in the near future.

As always thanks to the Northern Ohio Amateur Radio Society, Northern Ohio DX Association, Ohio/Penn PacketCluster Network, the AB5K's AR Cluster Networks, ARRL Web Page, NJ1Q & W1AW, AA3B, NG3K & ADXO, NY3B, W3UR & The Daily DX, K5GS, AA7A, K8BL, K8GI, K8YSE, W8GEX & 60m DX News, W9ILY, DL1SBF, DL7UXG & The DX News Letter, DxCoffee.com, DXNews.com, DX-World.Net, F5NQL, F6AJA & Les Nouvelles DX, I1HYW, I1JQJ/IK1ADH & 425 DX News, OH2BH, Pete Rayer & ISWL, RN3RQ, Sixitalia Weekly, and VA3RJ & ICPO 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.

Please keep in mind that there is a laundry list of countries that have postponed their mail service for the time being and will not accept mail from outside of their borders.

July...

5X, UGANDA. Shabu, M0KRI (ex-9U4RI), going back to Uganda (second home) after 15 years active as 5X1RI sometime during the end of July to mid-August. He is calling it "The Pearl of Africa – DXpedition Part 2." Look for more details to be forthcoming.

EA6, BALEARIC ISLANDS. Andy, DK5ON, will once again be active as EA6/DK5ON from Mallorca Island (EU-004, ARLHS BAL-010 Cap de Pera Light, WLOTA 1902) between July 1-11th. Activity will be holiday style with some possible EAFF and SOTA/GMA activities. Operations will be on 40-6 meters using CW, SSB and the Digital modes (JT65, RTTY, PSK31, FT4, FT8). QSL via DK5ON, direct, by the Bureau, ClubLog or LoTW.

FT8DMC ANNIVERSARY ACTIVITY WEEKS 2020. To commemorate the 3rd anniversary, several special event stations will be on air during the "FT8DMC Activity Days" between July 1-31st. All stations will bear the FTDMC or FTDM suffix, referring to the 3rd anniversary of the "FT8 Digital Mode Club". Special QSL-cards will confirm all QSOs and all logs will be uploaded to LoTW and eQSL.

HB0, LIECHTENSTEIN. Operators Loick/HB9HBY and Greg/HB9TWU will be active as HB0/HB9HBY from Liechtenstein between July 24-26th. Activity will be 24 hours/3 days on 80-6 meters, including 30/17/12m, using CW, SSB and FT8. A special callsign will be used on Saturday (it is a surprise). QSL via EB7DX.

VU, INDIA Subbu, VU2NSL operates the COVID-19 special event call sign AT9SS until July 28. QSL via LoTW or VU2NSL direct.

YJ40, VANUATU (Special Event). Operators Colin/YJ8CW, Estelle/YJ8ED and Rod/YJ8RN will be active as YJ40IND between July 1-30th. Activity is to celebrate the 40th anniversary of the Independence of Vanuatu. It was 40 years ago on July 30th, 1980, Vanuatu formerly known as New Hebrides, was granted its Independence. Operations will be mainly on 40/20/15 meters using CW, SSB and FT8. Most of their activity will be on the weekends. Listen for QSL info.

ZS, SOUTH AFRICA Special event station ZS1820S celebrates the arrival of the first British settlers at the South African Cape 200 years ago. They are QRV throughout 2020. QSL via ZS2EC (d/B), LoTW and ClubLog.

RI1, ANTARCTICA. Alexander, RX3ABI, has been active as RI1ANM from the Mirny Antarctica Base Station (AN-016) and will be there until early 2021. Activity will be limited to spare time on various HF bands, but it seems he likes mostly 40 and 20 meters FT8 between 0200-1530z. QSL via his home callsign.

August...

AT0, INDIA (Special Event). Dinesh "Pandir", VU2DCT, will use the special callsign AT0II (II=Improve Immunity) from Lucknow, India, to spread the awareness of the Covid-19 pandemic situation. Activity will be through August 18th. QSL via his home callsign.

AT2, INDIA (Special Event). Utsav, VU3ZIG, will use the special callsign AT2SON (SON=Save Our Nation) from Habra, India, which was issued by WPC Ministry of Telecommunications Government of India, to show the gratitude and tribute for the COVID-19 warriors during this pandemic situation. Activity will be through August 18th. QSL via his home callsign.

ILLW 2020. The 23rd International Lighthouse Lightship Weekend (ILLW), which usually takes place during the third weekend of August, has been moved to August 22-23rd. As of June 18th, there are 185 registered Light-house/Lightship stations.

P4, ARUBA. Thomas, KM4VI, will be active as P4/KM4VI from Aruba (SA-036) between August 2-7th. Activity will be holiday style on various HF bands using SSB QRP only. QSL via his home callsign, direct, LoTW or eQSL.

September...

E6 & A3, NIUE AND TONGA (Reminder). Operators Stan/ LZ1GC and Ivan/LZ1PM will be active from Niue as E6AM between September 28th and October 17th. After their operations in Niue, look for Stan, LZ1GC, (by himself) to be active as A35GC from Tongatapu Island (OC-049), Tonga, between October 19th and November 2nd. Activity from both islands will be on 160-6 meters, including 60m and 30/17/12m bands, using CW, SSB, RTTY and FT8. Logs will be uploaded to ClubLog during the activity and LoTW uploads to the sponsors one month later. A full log upload to LoTW will happen 6 months after their activity. QSL via LZ1GC, ClubLog's OQRS, direct or by the Bureau.

SX1, GREECE (Special Event). Two members of the "Fifth Ocean Ham Aviator's Club" will be active as SX1AFM from Piraeus Hellas between September 1-30th. Activity is to celebrate 70th anniversary since the establishment of the "Hellenic Air Force History Museum" Operators mentioned are Polydoros/SV1AHH and George/SV1GGF. Operations will be on 80-6 meters using all modes. QSL via eQSL, LoTW, direct and ClubLog. NO BUREAU. A special award is available.

IOTA NEWS...

EU-042. Mike, DG5LAC, will be active as DG5LAC/P from **Hooge Island** (DLFF-0013 Wadden Sea) between July 24-28th. Activity will be on SSB and FT8/FT4. He will also be in the RSGB IOTA Contest (July 25-26th). QSL via DG5LAC, direct, by the Bureau, Club Log's OQRS, LoTW, eQSL or ClubLog's OQRS.

EU-064. Fab, F4GYM, will use the club callsign F6KKB/p from **Noirmoutier Island** during the RSGB IOTA Contest (July 25-26th) as a Single-OP/Mixed-Mode (CW/SSB) entry. QSL F6KKB/P via F4GTB only via the Bureau (see QRZ.com). Outside of the contest (before and after), Fab will be active as F4GYM/P using CW, SSB and the Digital modes, with 100 watts. QSL via F4GYM, direct or by the Bureau.

EU-125. Mike, DG5LAC, will be active as OZ/DG5LAC from **Romo Island** (OZFF-004 Wadden Sea) between August 22nd and September 5th. Activity will be on SSB and FT8/FT4. QSL via DG5LAC, direct, by the Bureau, ClubLog's OQRS, LoTW, eQSL or ClubLog's OQRS

EU-174. Thomas, SV2CLJ, and members of the Crows Contest Team, are planning to activate **Amouliani Island** (WW Loc. KN10xh), Greece, in the Makedonia/Thraci Region Group, as J48L during the RSGB IOTA Contest (July 25-26th) as a Multi-Op entry. QSL via SV2CLJ. Look for more details to be forthcoming.

NA-070. Members of the Russian Robinson Club team will be active as KL7RRC from **Kiska Island** between **June 10-15th**. Operators mentioned are Vyacheslav/OK8AU, Yuri/N3QQ, Yuri/UA9OBA and possibly Tim/NL8F and Alexey/NW7M. Activity will be on 40/30/20/17/15/12/10/6 meters using CW, SSB and FT8(FH), with three stations. The frequencies will be published on their QSL via N7RO. All donors will receive QSL direct.

NA-079. Operators Matt/AE4MQ, Grace/KE3G, Zachary/KN4KVC, Michael/N3KPU, Connor/W4IPC and James/WX4TV will be active as N4T from the **Dry Tortugas National Park** (Grid Square EL84np, POTA K-0023, ARLHS USA-316), Florida, between July 21-24th. Activity will be on 80-6 meters using CW, SSB, FT8 and the Satellites. Planned FT8 frequencies: 3567, 7056, 10131, 14090, 18095, 21091, 24911, 28091 and 50323 kHz. QSL via LoTW.

NA-158. Bryden, KC1KUG, will be active as KL7/KC1KUG from **Fire Island, Alaska**, in the Cook Inlet Group, between June 2-27th. Activity will be mostly on 40/20 meters, possibly 80/30/17m, using mostly SSB, some CW or FT8. QSL via KC1KUG.

SA-079. Members of the PARA DX Group are planning to activate for the **first time ever Ilha das Palmas** (new DIB for Brazil, RJ [to be defined]) in the Rio de Janeiro State Center Group as ZV1M between July 24-26th, during the next RSGB IOTA Contest (July 25-26th). Operators mentioned are Renato/PY8WW, Carlos/PY1CG and Marcelo/PY1MT. Ilha das Palmas is a small island, uninhabited and without any infrastructure, there is no electricity or drinking water. Landing is done on rocks and sea conditions are generally not good. The Grid Locator is GG86FW. Activity will be on 80/40/20/15/10 meters using CW, SSB and the Digital modes. QSL via PY1MT, direct or by the Bureau.

Well, that's it for now. Get on the air and work some DX and have some fun on the bands.



DX Engineering is Hiring

DX Engineering is Hiring. They are looking for various position including Technical Sales Rep and manufacturing/warehouse help.

If you would like to help others enjoy Ham Radio and be part of the DX Engineering team, visit the DX Engineering web site.

For more details see:

<https://summitracing.wd5.myworkdayjobs.com/DXEngineering-External-Career-Site>



5 Results

DXE Technical Sales Rep - Part time

DXE Distribution | R000863 |

DXE Technical Sales Rep

DXE Distribution | R000862 |

Warehouse Utility 1

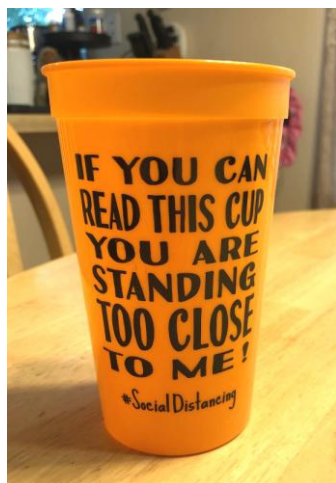
Tallmadge OH 3800 Mogadore | R000664

DXE Assembler 1

Tallmadge OH 3800 Mogadore | R000663

Warehouse Utility 1

Tallmadge OH 3800 Mogadore | R000144





National Weather Service



THUNDERSTORM SAFETY FOR YOU AND YOUR FAMILY

BEFORE A THUNDERSTORM

- ✓ **Be Weather-Ready:** Check the forecast regularly to see if you're at risk for severe thunderstorms. Listen to local news or a NOAA Weather Radio to stay informed about watches and warnings. Preparation is key to staying safe and minimizing impacts.
- ✓ **Sign Up for Notifications:** Know how your community sends warnings. Check media severe thunderstorm alerts available in your area.
- ✓ **Create a Communications Plan:** Have a family plan that includes an emergency meeting place. Pick a safe room in your home such as a basement, storm cellar or an interior room on the lowest floor with no windows. Get more details at [ready.gov/make-a-plan](https://www.ready.gov/make-a-plan)
- ✓ **Practice Your Plan:** Conduct a family severe thunderstorm drill regularly so everyone knows what to do if damaging wind or large hail is approaching. Don't forget pets.
- ✓ **Prepare Your Home:** Keep trees trimmed near your house. If you have time before severe weather hits, put away loose objects, close windows and doors, and move valuable objects inside or under a sturdy structure.
- ✓ **Help Your Neighbor:** Take CPR training so you can help if someone is hurt during severe weather. Conduct a drill with elderly or disabled neighbors.



Sit down with your family or friends and develop a communications plan. Photo NOAA

DURING A THUNDERSTORM

- ✓ **Stay Weather-Ready:** Continue to listen to local news or a NOAA Weather Radio to stay updated about watches and warnings.
- ✓ **At Your House:** Go to your secure location if you hear a severe thunderstorm warning and damaging wind or large hail is approaching. Take your pets if time allows.
- ✓ **At Your Workplace or School:** Stay away from windows if you are in a severe thunderstorm warning. Damaging wind or large hail could blow a heavy object at windows. Do not go to large open rooms such as cafeterias, gymnasiums or auditoriums.
- ✓ **Outside:** Go inside a sturdy building immediately if severe thunderstorms are approaching. Sheds and storage facilities are not safe. Taking shelter under a tree can be deadly. The tree may fall on you and you are at risk of getting struck by lightning.
- ✓ **In a vehicle:** Being in a hard-topped vehicle is safer than being outside; however, if you have time, drive to the closest secure shelter.

AFTER A THUNDERSTORM

- ✓ **Stay Informed:** Keep your NOAA Weather Radio or portable radio with you in your safe place/shelter, so you can listen for updates on watches and warnings and know whether the threat has passed.
- ✓ **Contact Your Family and Loved Ones:** Let your family and close friends know you're okay so they can help spread the word. Power may be out and phone lines may be down.
- ✓ **Assess the Damage:** After you are sure the severe weather threat has ended, check your property for damage. When walking through storm damage, wear long pants, a long-sleeved shirt and sturdy shoes. Contact local authorities if you see power lines down. Stay out of damaged buildings. Be aware of insurance scammers if your property has been damaged.
- ✓ **Help Your Neighbor:** If you see someone injured, call 911. Then, if you are trained, provide first aid until emergency responders arrive.

For more information, visit [weather.gov/safety/thunderstorm](https://www.weather.gov/safety/thunderstorm)



National Weather Service

SEVERE THUNDERSTORM RISK CATEGORIES

	Thunderstorms (No Label)	<ul style="list-style-type: none"> ✓ No Severe Thunderstorms Expected, Lightning/Flooding threats exist with all thunderstorms, Winds to 40 mph, Small hail.
1	MARGINAL (MRGL)	<ul style="list-style-type: none"> ✓ Isolated severe thunderstorms possible, Limited in duration and / or intensity. Winds 40 - 60 mph. Low tornado risk.
2	SLIGHT (SLGT)	<ul style="list-style-type: none"> ✓ Scattered severe thunderstorms possible. ✓ Short-lived and / or not widespread, isolated intense storms possible. One or two tornadoes. ✓ Reports of strong wind damage ✓ Hail - 1", Isolated - 2"
3	ENHANCED (ENH)	<ul style="list-style-type: none"> ✓ Numerous severe thunderstorms possible ✓ More persistent and / or widespread. ✓ A few tornadoes. Several reports of strong wind damage. ✓ Damaging hail - 1 - 2"
4	MODERATE (MDT)	<ul style="list-style-type: none"> ✓ Widespread severe thunderstorms likely ✓ Long-lived, widespread and intense. ✓ Strong tornadoes. ✓ Widespread wind damage ✓ Destructive hail - 2"+
5	HIGH (HIGH)	<ul style="list-style-type: none"> ✓ Widespread severe thunderstorms expected. ✓ Long-lived, very widespread and particularly intense. ✓ Tornado Outbreak. ✓ Derecho

Developed by the Storm Prediction Center (SPC)



THUNDERSTORMS WATCH VS. WARNING

Severe Thunderstorm Watch: **Be Prepared!**

Severe thunderstorms are possible in and near the watch area. Stay informed and be ready to act if a severe thunderstorm warning is issued. Watches are issued by the Storm Prediction Center ([spc.noaa.gov](https://www.spc.noaa.gov)) for counties where severe thunderstorms may occur. The watch area is typically large, covering numerous counties or even states.

Severe Thunderstorm Warning: **Take Action!**

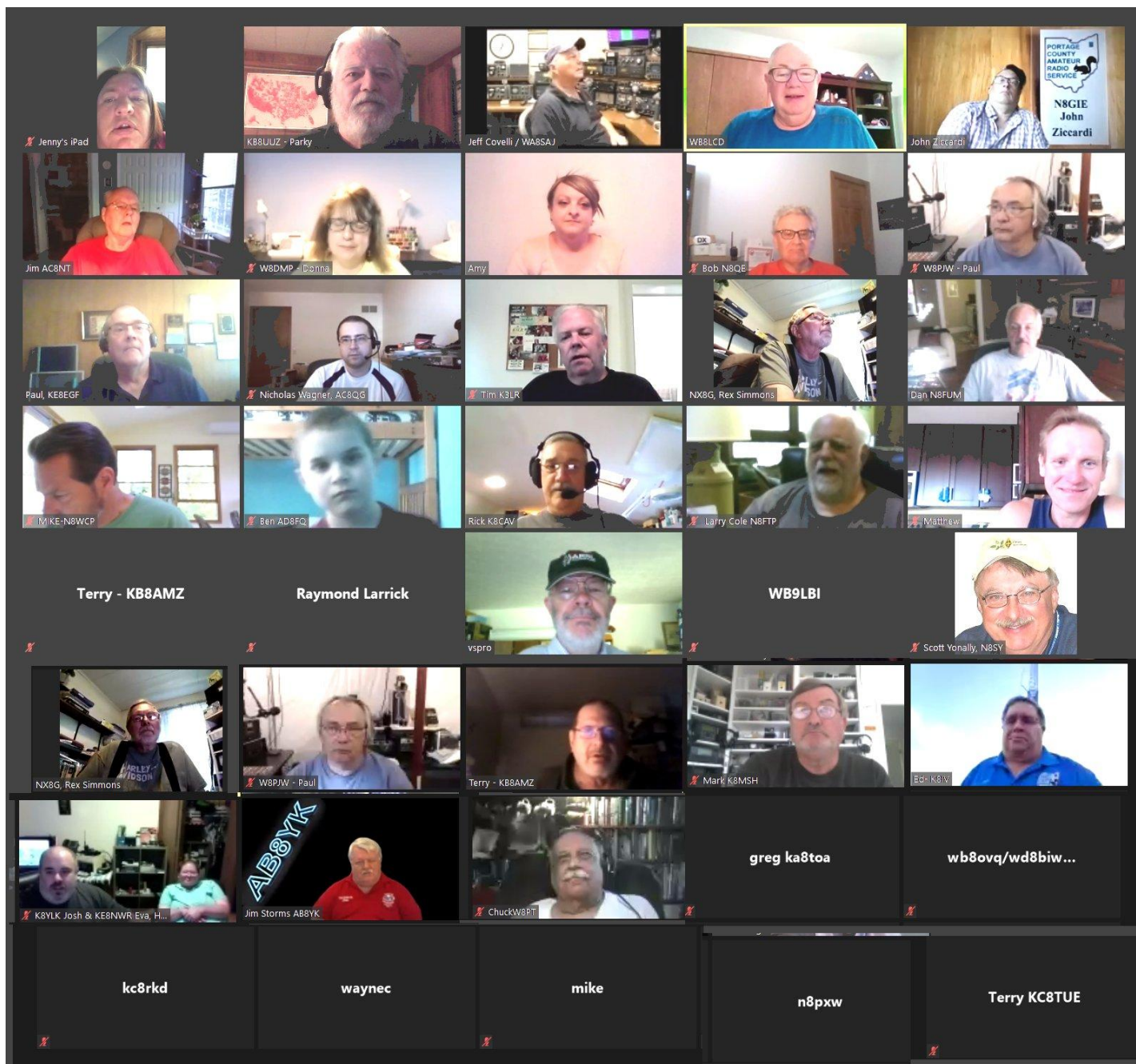
A severe thunderstorm has been indicated by radar or reported by a spotter producing hail one inch or larger in diameter and/or winds exceeding 58 mph. Warnings indicate imminent danger to life and property. Take shelter in a substantial building. Severe thunderstorms can produce tornadoes with little or no advance warning.



After a tornado, watch out for dangerous debris, such as sharp metal, glass, or downed power lines.. Photo: NOAA

For more information, visit weather.gov/safety/thunderstorm

Photos from the June PCARS Zoom Meeting



PCARS
www.portcars.org



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



CW/QRP & Linux Special Interest Groups

Terry, KB8AMZ

CW & QRP SIG - Linux for Hams SIG

I have been ill for the past 10 days and have not written articles for either of the SIG's. I can only apologize and try to get it together for the July Radiogram.

Be safe, wear a mask when around others. I do. Don't want to wear the mask because it makes breathing more difficult but it's better to safe than sorry when dealing with an airborne virus.



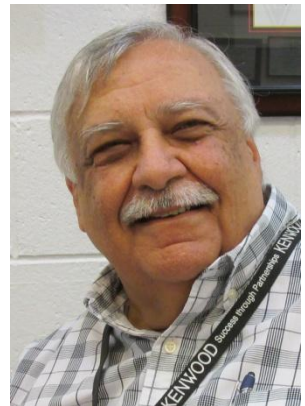
DX & Contest Special Interest Group

Chuck, W8PT

As you all know, we have not had a DX/Contest Special Interest Group meeting for a few months now. But that doesn't mean that things have not been discussed. Even though it happens in August, we have been discussing the Ohio QSO Party/BBQ event which will take place on August 22-23. We want to have this event but we want to do it in a responsible manner. There will be more announcements on the OQSP in the near future.

We also are discussing plugging in a few events that we had not planned on when we set out the contest schedule at the beginning of the year. So we will also be making announcements on what is planned and get some input from contesting members.

But for now, 73 and keep the ethers wobbling.

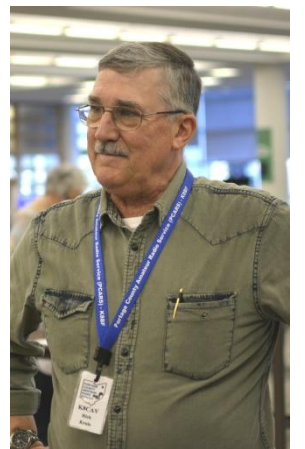


Digital Special Interest Group

Rick, K8CAV

I have a lot of egg on my face and a big apology to all of you who wanted to attend last month's Digital Special Interest Group virtual meeting on the K8IV repeater. I had spent the day on the tractor mowing with my cell phone safely ensconced on the kitchen table and totally forgot about the meeting.

This month's meeting will take place on the K8IV 146.895 repeater on Tuesday July 7th at 7:00 PM. I'll talk about my experiences in integrating the logging from fldigi and WSJT-X into N3FJP Field Day log. Also for those interested, we can try operating on different modes on the repeater and if you'd like, on HF. As always we'll do our best to answer any questions and address any problems you may be having with digital operations.



Sign of the Times



Matthew, KN4GWY

Photos of my face mask drying rack.

Life on the road 2020.

Just another bit of VHF fun, 50 watt dryer.



Maritime Mobile

Today during our 2M net I suggested working the event from a small inland lake island for low RFI and perfect social distancing and if the weather will be bad from home or local park.



Sylvester, W8YIH

Net control suggested to send in a newsletter message with a little giggle about **maritime mobile** hi-hi so here it is.

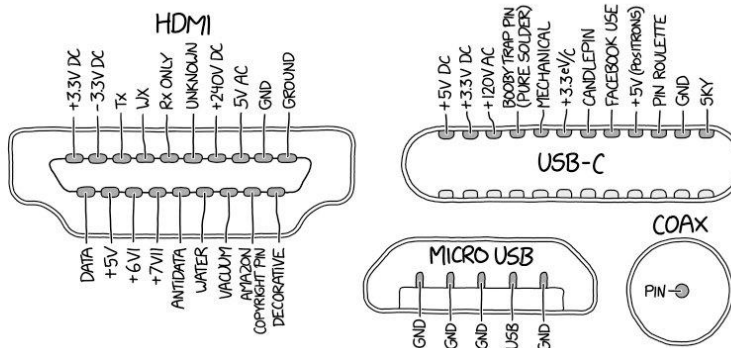
I think I was misunderstood as offering an idea but that is what I have been doing for a while.



Editor's Note: Check out Sylvester's QRZ listing - Look at his other Land Mobile Big Rig!



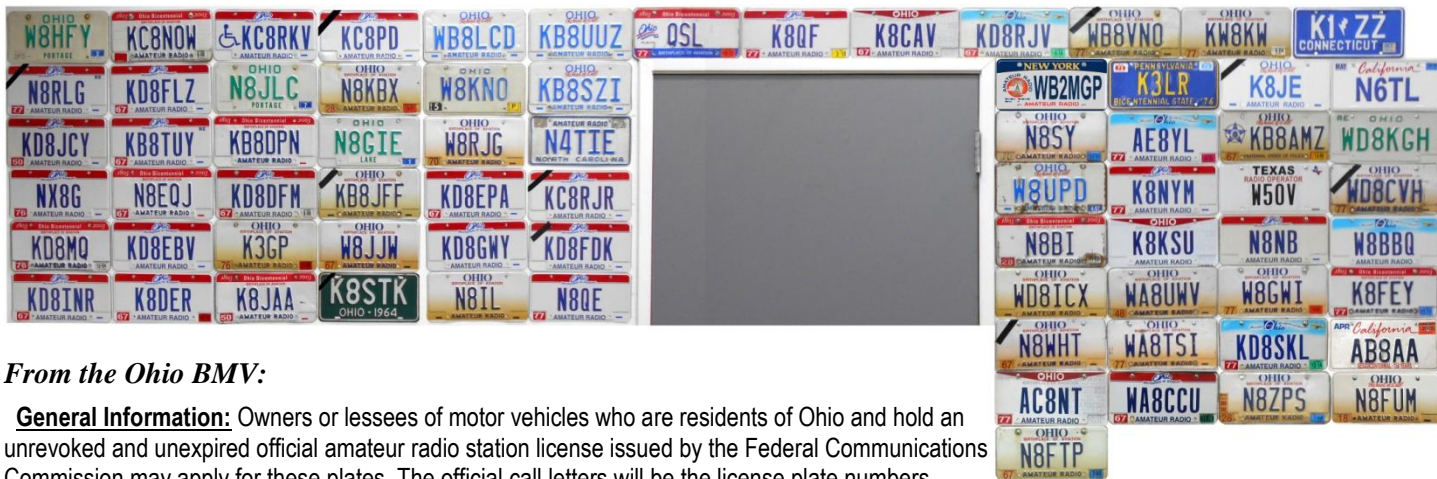
PINOUTS
QUICK REFERENCE GUIDE



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 72 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.

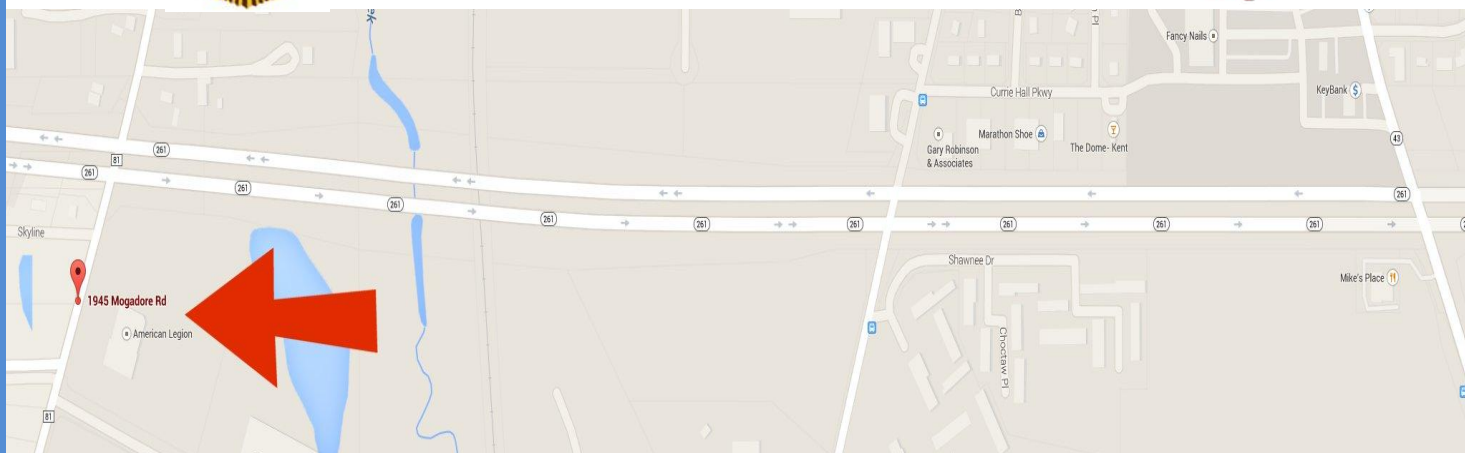


PCARS Meetings

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



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



The American Legion Post 496 is located on the southeast corner of State Route 261 and Mogadore Rd. The driveway is on the south side of the building and as you enter you will pass through a parking lot on the south side of the building. Please do not park in this lot but instead continue on to the parking lot on the east side of the building which is 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.

Good Memories....

Mergatroyd! Do you remember that word? Would you believe the spell-checker did not recognize the word Mergatroyd? Heavens to Mergatroyd!

The other day a not so elderly (I say 75) lady said something to her son about driving a Jalopy; and he looked at her quizzically and said, "What the heck is a Jalopy?" He had never heard of the word jalopy! She knew she was old, but not that old.

Well, I hope you are Hunky Dory after you read this and chuckle.

About a month ago, I illuminated some old expressions that have become obsolete because of the inexorable march of technology. These phrases included: Don't touch that dial, Carbon copy, You sound like a broken record, and Hung out to dry.

Back in the olden days we had a lot of moxie. We'd put on our best bib and tucker to straighten up and fly right. Heavens to Betsy! Gee whillikers! Jumping Jehoshaphat! Holy Moley!

We were in like Flynn and living the life of Riley; and even a regular guy couldn't accuse us of being a knucklehead, a nincompoop or a pill. Not for all the tea in China!

Back in the olden days, life used to be swell, but when's the last time anything was swell? Swell has gone the way of beehives, pageboys and the D.A.; of spats, knickers, fedoras, poodle skirts, saddle shoes, and pedal pushers.

Oh, my aching back! Kilroy was here, but he isn't anymore.

We wake up from what surely has been just a short nap, and before we can say, "Well, I'll be a monkey's uncle!" Or, "This is a fine kettle of fish!"

We discover that the words we grew up with, the words that seemed omnipresent, as oxygen, have vanished with scarcely a notice from our tongues and our pens and our keyboards. Poof, go the words of our youth, the words we've left behind. We blink, and they're gone. Where have all those great phrases gone.

Long gone: Pshaw, The milkman did it. Hey! It's your nickel. Don't forget to pull the chain. Knee high to a grasshopper.

Well, Fiddlesticks! Going like sixty. I'll see you in the funny papers. Don't take any wooden nickels. Wake up and smell the roses.

It turns out there are more of these lost words and expressions than Carter has liver pills. This can be disturbing stuff! (Carter's Little Liver Pills are gone too!)

Leaves us to wonder where Superman will find a phone booth... See ya later, alligator! Okidoki.

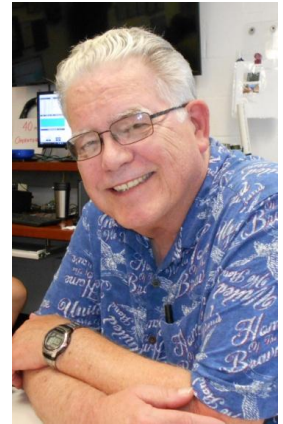
WE ARE THE CHILDREN OF THE FABULOUS 50'S ... NO ONE WILL EVER HAVE THAT OPPORTUNITY AGAIN. WE WERE GIVEN ONE OF OUR MOST PRECIOUS GIFTS: LIVING IN THE PEACEFUL AND COMFORTABLE TIMES, CREATED FOR US BY THE "GREATEST GENERATION!"



Thanks & 73



Parky, KB8UUZ
PCARS Newsletter Editor



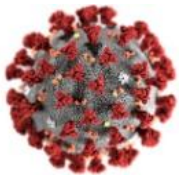
I really appreciate the help in gathering material to keep this newsletter number one. Without your help we would not have received the newsletter awards that we do get. All of our members (and others) look forward to getting this newsletter every month, so keep sending those inputs! I'm sure PCARS is known as the **BIG FUN** amateur radio club. So chip in and send your report in to keep this newsletter great for 2020 and beyond. You will see some humor based cartoons and articles about the COVID-19 - Yes, I agree this pandemic is VERY serious to all - but in tough times, you just have to have a bit of humor to get you through - I hope you agree. Hang in there, please.

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

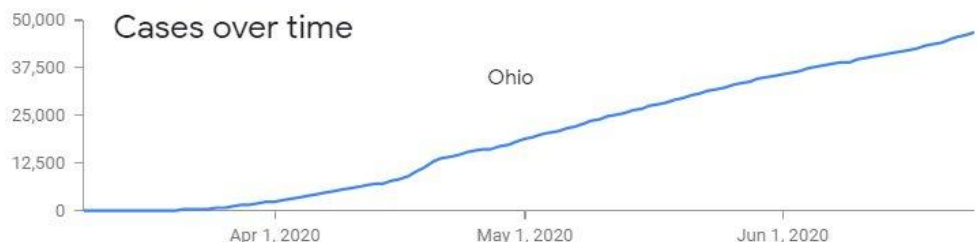
WB8LCD, AC8QG, KE8EGF, KB8UUZ, 4ZIUG/WA6IGR, W8KNO, KD8MQ, N8SY, G4LFM, N8WCP, K8IG, KA8TOA, K3LR, W8BBQ, NF8R, NO8D, K8CAV, W8PT, KB8AMZ, KN4GWY, W8YIH, WX4QZ, The University of Warwick, CQ Magazine & Blog, Radio Society of Great Britain, National Weather Service, DX Engineering, The ARRL, and the world wide web.

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

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Hello PCARS ! I just wanted to jump in here and talk a bit about this COVID-19 situation. Being stuck at home has given me an opportunity to watch many news sources such as ABC, NBC, CBS, Google News, Yahoo News, and a few more. I know everyone is really gotten tired of staying at home, or if you are going out, wearing a mask to not only protect yourself, but others as well. All I can say is keep doing what you can to prevent the possibility that you may contract this deadly virus, or worse yet spread it to the ones you know (or don't know). This virus is not going away anytime soon and if you think it is, you are dead wrong. When this first started back in March I watched and saw the graphs showing the curve. Back then I could see that this would not peak until late June and probably will not fall until January of 2021 - so far that still seems to be the grim picture. Now many states that are pushing to open everything up again are having new spikes again in those being infected. Too many younger people are now finding out they are not as invincible as most young people think they are. We all thought we were invincible when we were younger. Going to places where there are crowds is not on my list of things to do. Too many people not following the advice of the medical experts. Too many people getting a bit too close to each other. I want to be around when this solar cycle picks up and we can make more and more contacts on ham radio like we did in years past. But, if you insist on going out as if this pandemic was over, you are taking a risk of not being here when it does finally go away. I don't like putting SK notices in this newsletter and I hope to see you all again when this COVID-19 thing is finally over with. And from what I have seen, it looks like that won't happen until Spring of 2021. So, until we meet again in person, please be safe, take the proper precautions, and hang in there. Parky, KB8UUZ



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

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

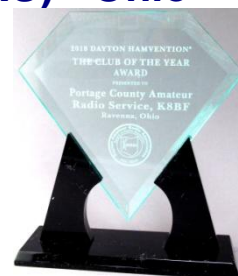


PCARS meets the second Monday of each month at the **Kent American Legion Post 496**, 1945 Mogadore Rd. - just South of Rt. 261 - Enter the rear of the building for the meeting room.

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: **K8SRR**

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



~ 2020 Officers ~		2020 PCARS Appointments & Committees	
President - Tom Sly - WB8LCD Vice President - Nick Wagner - AC8QG Treasurer - Paul Hyland - KE8EGF 3 Year Trustee - John Myers - KD8MQ 2 Year Trustee - Terry Morris - KB8AMZ 1 Year Trustee - Ed Polack - K8IV Past President - Jim Wilson - AC8NT	ARRL Awards - DXCC	W8KNO	Joe Wehner
	Club Site Manager/Liaison	K8CAV	Rick Kruis
	Contest Coordinator	W8PT	Chuck Patellis
	EchoLink & Web Guru	K8SRR	Steve Randlett
	Field Day Chairman, 2020	WA8AR	Tony Romito
	FYAO Chairman	W8PT	Chuck Patellis
	Historian	KB8SZI	Peggy Parkinson
	K8BF Callsign Trustee	N8AMY	Amy Leggiero
	K8BF QSL Manager	N8AMY	Amy Leggiero
	Membership Chairman	AC8NT	Jim Wilson
	Net Control Manager	KA8TOA	Greg Ash
	Net Night - Club Manager	WB8LCD	Tom Sly
	Newsletter Editor	KB8UUZ	Tom Parkinson
	OSPOTA Chairman	KB8UUZ	Tom Parkinson
~ Meetings & Net ~		Public Information Officer	
2nd Monday of each month. 7pm Thursday night Club Net at 8 pm on 146.895	Secretary	N8WCP	Mike Szabo
	Social Media	N8AMY	Amy Leggiero
	Tech, Gen & Extra Class Manager	AC8NT	Jim Wilson
	Volunteer Examiner Liaison	KB8UUZ	Tom Parkinson
	Webmasters	KD8MQ	John Myers
		K8SRR	Steve Randlett

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



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



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705 Oakwood Street - Box 12
Ravenna, OH 44266 USA



NLC

