



The **RADIOGRAM**

When All Else Fails ~ Amateur Radio Works

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

December 2015 - Volume 10 Number 12

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In This Issue - 

PCARS Officers Elected for 2016

OSPOTA 2015 Results



Field Day 2015 Results



Center of Hope Donation - FANTASTIC



PCARS K8BF

The Club that puts the FUN in Ham Radio!



In This Issue of **The RADIOGRAM**
December 2015
 Volume 10 Number 12



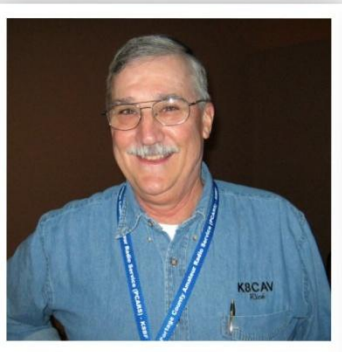
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Congratulations to the Newly Elected PCARS Officers



During the November PCARS meeting, elections for officers were held and the following members were elected for 2016. They will start their new term of office on January 1, 2016.



**President
Rick, K8CAV**



**Vice President
Jim, AC8NT**



**Treasurer
Amy, KD8SKL**



**3 Year Trustee
Jim, KC8PD**



**2 Year Trustee
Chuck, W8PT**



**1 Year Trustee
James, KD8VT**



**Immediate Past President
Tom, WB8LCD**

2016 PCARS Officers

Schedule of Events

On the calendar for upcoming meetings and activities are:

- **December 14th - PCARS Christmas Party/Meeting** - Make your dinner reservations NOW
- **January 6th - General Class upgrade training class** starts at 7pm - PCARS Club Site
- **January 11th - PCARS Meeting** - 7pm
- **February 8th - PCARS Meeting** - 7pm
- **February 13th - Eleventh Freeze Your Acorns Off** QRP event in Kent
- **February 24th - VE Testing at Club Site** - 7pm for the General Class - Walk-ins welcome

Special Interest Groups - Every Month at the Club Site in Ravenna - 7 pm



- | | | |
|-----------------|---|--|
| First Tuesday | - | Digital Special Interest Group |
| Second Tuesday | - | QRP/CW Special Interest Group |
| Third Tuesday | - | Antenna Special Interest Group |
| Fourth Tuesday | - | DX & Contest Special Interest Group |
| Fifth Tuesday | - | Linux for Hams Special Interest Group |
| Fourth Thursday | - | Net Night at the club site - 6:30 pm |



From the President

Rick, K8CAV
PCARS President

Selecting the officers and trustees who are the most visible part of the PCARS leadership team is one the most important things we do in our organization and I want to thank all of you who took the time to make it to the November meeting to do just that. Filling those positions requires commitment, time and effort to make sure that the wishes of the members are fulfilled and I'd like to thank the following who were elected for volunteering to hold these offices.



Rick K8CAV, elected as Club President Jim AC8NT, elected as Club Vice President
Amy KD8SKL, elected as Club Treasurer Jim KC8PD, elected as Three Year Trustee

Special thanks go to Tony WA8AR past Vice President, Bob N8QE past Treasurer, and Erica AE8YL past Trustee for their service to PCARS.

There are many appointed leadership positions in our club that make PCARS a very fun and enjoyable club to belong to. From our operational activities such as Freeze Your Acorns Off, Field Day, and OSPOTA to our special interest group facilitators to the people we rarely read about such as QSL card checkers and more, these leaders contribute enormous amounts of time and energy to make sure that you, our members have opportunity to enjoy many different facets of Amateur Radio.

The best leadership in our club has no relevance without you participating in the club. PCARS is fortunate to have a fairly large percentage of its members participate in different club activities, but I would like to see even more of you attend the monthly meetings and participate in the events PCARS offers. Your being there makes every event a lot more enjoyable so make some time to participate and have K8BF big fun. I want to wish you and your families a very joyous holiday season, and I'm looking forward to another new year with all of you in PCARS.



PCARS Christmas Party - Meeting



Tom, WB8LCD



Preparations are nearly PCARS will hold our annual Christmas Dinner Meeting on Monday, December 14, 2015. (Our regular meeting night) The meeting will take place at the American Legion Hall (our usual meeting place) and the dinner will be catered by the Little City Grill of Kent. Dinner will be served at 7:00 PM promptly, so please try to arrive on time, or maybe even a little early.

The cost of the dinner is \$17 per plate and will include a dinner salad, roll and butter, potato and your choice of chicken or prime rib. Beverages will be ala carte from the canteen, and I'll ask everyone to bring a small plate of Christmas cookies to share for dessert.

IMPORTANT: I'll need your reservation and payment no later than Saturday, December 5th to make our final order with Little City Grill. You can either send me a check in the mail (WB8LCD 1480 Lake Martin Dr., Kent, OH 44240) or you can use the Paypal button on the website. I'll need to know the entree choice for each dinner reservation made.

After dinner, Parky – KB8UUZ – will give a presentation on PCARS and all we have accomplished in our 10 year history, followed by our annual gift exchange. Please bring a ten dollar gift and mark it for a Ham or

Non-ham. (non-ham gifts should be gender neutral) If you are bringing children and want to make sure they get a special gift – please mark your child's name on the gift so it's sure to get to him/her.



I truly hope that you will attend along with your significant other or spouse. This is designed to be a “family friendly” meeting

and give us all a chance to share the fellowship of the Christmas Season.

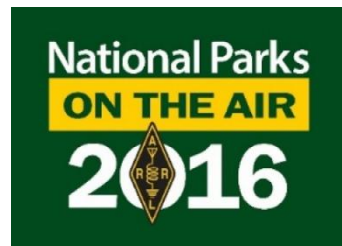


PCARS is on YouTube

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.

https://www.youtube.com/channel/UCFVsDD_gwCLtTw-FPuBcYtA





From the ARRL

Manhattan Project Sites Now Eligible for National Parks on the Air Event

The US departments of Energy (DOE) and the Interior have signed an agreement making the three sites of the Manhattan Project (<http://www.nps.gov/mapr/index.htm>) a National Historical Site -- and the 409th official unit of the National Park Service. The Manhattan Project was the name given to the secret World War II effort to develop an atomic weapon. The agreement makes the new NPS unit eligible for the ARRL 2016 National Parks on the Air (NPOTA) event, celebrating the centennial of the National Park Service. The National Parks Conservation Association reported the agreement on November 10. The three sites comprising the Manhattan Project National Historical Park now will be added -- with a caveat -- to the list of eligible NPOTA sites. They are in Hanford, Washington; Los Alamos, New Mexico, and Oak Ridge, Tennessee.

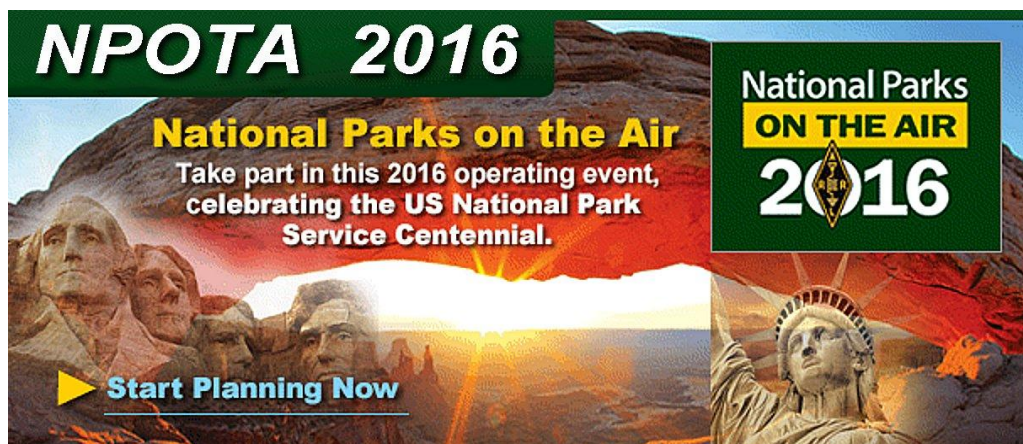
"A visit to the Manhattan Project National Historical Park will be different from a visit to many other national parks," the National Park Service has pointed out. "Many of the properties included in the park are located in areas that are still part of the active DOE mission. Because of safety and security issues some facilities may not be immediately open to the public, and others may only be visited on organized bus tours. The National Park Service and the Department of Energy are working together to safely expand access to the facilities included in the park."

As a result, the new unit will be flagged as "extremely sensitive" on the NPOTA list, which is the official list (<http://www.nps.gov/aboutus/faqs.htm>) of NPS Administrative Units and Affiliated Areas as defined and maintained by NPS.

NPOTA will run throughout 2016, with activity promoted and encouraged from each of the official NPS administrative units and affiliated areas across the US. This includes all National Parks as well as many National Battlefields, Historic Sites, Memorials, Preserves, Reserves, Rivers, Seashores, National Scenic Trails, and other units.

The NPOTA program will have two participation tracks -- Chasers and Activators. Chasers will simply attempt to make contact with operators in as many of the NPS units as possible. Activators will attempt to activate as many of the units as possible. NPOTA participants may serve in both roles. Only one contact with any given NPS unit will be required, and no tally will be kept of NPS units based on bands or modes. NPOTA will be administered entirely through Logbook of The World (LoTW). Award certificates will be available.

Complete details on National Parks on the Air are available on the ARRL website.



Field Day 2015 - The Results Are In

Chuck, W8PT
Field Day Chairman

I'm sure that many of you saw the preliminary Field Day information that was in the newsletter a few months ago for Field Day 2015. Well, the final results have now been posted on the ARRL web site.



Keep in mind that we operated in Class 4A – meaning 4 primary stations: 20m; 40m; CW; Flex. All stations operated primarily on emergency power from the large generator, but we did make a number of contacts using solar power as well. We also had a VHF station which counts toward QSO points but does not affect the 4A Class. This year we did not have any contacts for the GOTA station.



We reported 98 participants which includes Field Day staff, station operators, loggers and visitors. Of the 98 participants, we had 26 individual operators. Our point score is derived from QSO points and bonus points and totaled 8990.

So with all of the above, how did we do? Well, looking at the results from the ARRL, here is how we placed:

- There were 2720 total entries (all classes) and K8BF came in **69th overall**.
- In the **4A category** for the total entries, K8BF came in **8th** out of 155 entries.
- In the Great Lakes Division, we came in we came in **5th** place out of 243 entries.
- In the 4A category for the great Lakes Division, K8BF came in **2nd** place out of 17 entries.
- In Ohio, we came in **4th** overall out of 119 entries (All classes).
- In the 4A category for Ohio, we came in **2nd** place out of 7 entries.
- We had 98 participants - after sorting all 2720 entries, we tied with a club in Georgia for **8th** overall in the number of participants.

If you consider the lousy cold rainy weather which we had to deal with and the noise/interference that we experienced, we really did pretty good.

I want to thank everyone who helped make the PCARS 2015 Field Day event a success. I want to especially thank the operators and loggers who manned the stations so that we could put K8BF on the air. You were outstanding.



Each year, we learn something new so that we can better ourselves in the next year. And that is what your Field Day Staff is looking to do for 2016. We are already working on Field Day 2016. And you are very welcome to join us in our planning meetings. Let's make PCARS 2016 Field Day better than ever.



From the Vice President Elect

Jim, AC8NT



Thanks for electing me for Vice President of PCARS. It plan to give it my best.

We are working on next year's events this month. My goal is to keep our calendar planned out at least three months.

First we are planning two classes for the start of the year. The General class starts January 6 at 7 PM and finishes with a test session on February 24. We will also be starting an Extra class in March running for 11 weeks. The General class will be held at the club site. The location for the Extra class is being studied. I have had a lot of requests from hams outside our club for the Extra class, so we are trying to find a location convenient to everyone.

We are also planning topics for our monthly meetings. Topics for the start of the year will include Digital Techniques, EME, and Arduino applications. If any of you have any suggestions please give me your ideas.

PCARS Patches & Stickers

New 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: Bob, N8QE or e-mail him at: N8QE@portcars.org



Contest Calendar

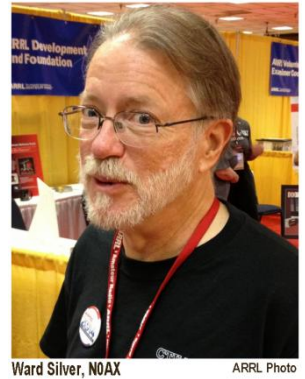
December 2015	
ARRL 160-Meter Contest	2200Z, Dec 4 to 1600Z, Dec 6
Ten-Meter RTTY Contest	0000Z-2400Z, Dec 6
ARRL 10-Meter Contest	0000Z, Dec 12 to 2400Z, Dec 13
RAC Winter Contest	0000Z-2359Z, Dec 19
ARRL Rookie Roundup, CW	1800Z-2359Z, Dec 20
Stew Perry Topband Challenge	1500Z, Dec 26 to 1500Z, Dec 27

Google the Contest Name - Read the Rules & Have Fun.

YES - There are MANY More Contests out there - Check the Internet

Putting Contesting to Work for Your Public Service Team

Ward Silver, N0AX



Ward Silver, N0AX ARRL Photo

ARRL November Sweepstakes was just completed, and the ARRL 10 Meter Contest is coming up soon. All are ideal opportunities to gain or hone Amateur Radio operating skills that can be put to use during an emergency response or a public service event. In short, contesting isn't just for contesters anymore, and you don't have to wait for Field Day to get — or stay — up to speed.

“Operating skill is not something that can be tested on a license exam or learned from a book,” said ARRL Contributing Editor Ward Silver, N0AX, an active contester as well as a member of his local ARES® team. “Emergency managers know that practice — lots of it — is required for operators to be sharp when they are really needed.” Silver pointed to an article on the topic by ARRL Southwestern Division Vice Director Marty Woll, N6VI, that appeared recently on the Southern California Contest Club (SCCC) website.

“[C]ontesting helps prepare us for demanding communication tasks, such as might be encountered during a major disaster,” Woll said in his article. “You don't have to be in it to win it; just take part, and have fun while you're learning to enhance your and your station's performance.”

Silver says that repetitive emergency drills are fine but can get old. Contesting offers an enjoyable way to give your equipment a good shakedown and build on-the-air knowhow. “Just as sports keep you physically fit, ‘radiosport’ — or contesting — can serve as a training ground while having fun at the same time,” he said. Silver points out that a huge, multi-tower station isn't necessary to participate. Even a low dipole will let you work lots of stations — and in SS, all of the stations are in the US.

Sweepstakes (SS) was conceived as a traffic-handling event that uses traffic-handling terms. Participants share their “precedence” (operating category) and “check” (the last two digits of the year the operator was licensed) as part of the exchange.

Local events are another option. “You can start simple with any of a number of regional FM simplex contests that encourage the use of mobile and handheld FM radios for an afternoon or evening,” Silver suggests. “This is a great way to learn about squelch management, copying weak signals, using phonetics, and the effectiveness of good locations and antennas.”

ARES® and RACES groups can participate as teams, and a contest can be a terrific opportunity to dust off that communications van or even to get some practical experience in an emergency communications center (EOC).

“If you have enough interest, divide your group into two or three-person teams that operate in shifts with an experienced operator to mentor,” Silver said. “Better yet, put the teams at different stations and let them go head-to-head in a short challenge. No one says you have to operate the entire contest, either. Pick times that work — maybe about as long as your regular drills — and get together afterward for a little socializing over pizza.”

Silver said a contesting Elmer can help those new to contesting with scripts that guide the newbies through a QSO as well as some instruction on how to take best advantage of your equipment. Start each team of operators with a period of listening. “Once your team gets up to speed,” Silver said, “emphasize the reasons why we have

contests in the first place: To reinforce accurate, effective operating practices. Place a special emphasis on copying call signs and exchanges 100 percent correctly.”

“The hours will fly by, and when it’s over, you’ll have some operators eager to do it again,” Silver said. “Regardless of how many contacts you make, when interspersed with regular drills and exercises, contesting offers a great change of pace while advancing everyone’s abilities at little or no cost.”



PCARS VE Test Sessions

Robert, N8RLG
PCARS VE Team Liaison



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

2015: December 5th

2016: February 6th - April 2nd - June 4th - August 6th - October 1st - December 3rd

Also: February 24th - General Upgrade Class - 7pm - June 25th at Field Day

What to Bring to the Testing Session

- \$15 is 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 any 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 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 copy of your expired Amateur Radio License - you must take and pass element 2 to re-instate your license.



FCC Not Processing License and Exam Session Files Again

The FCC Universal Licensing System (ULS) electronic batch filing (EBF) system is down again, after working for a brief window on Wednesday, November 18 following an outage on Friday, November 13. Some files were processed through the system Wednesday, but the FCC reported on November 19 that it was again unable to process VEC license and examination session files. The problem remains unresolved.

ARRL VEC Manager Maria Somma, AB1FM, said her office again had to alert the FCC IT staff, which is looking into the issue but did not estimate how long the system would be down. Somma said it was the third time the EBF system has gone down since late September, when the FCC said a process had stopped running on an FCC server.

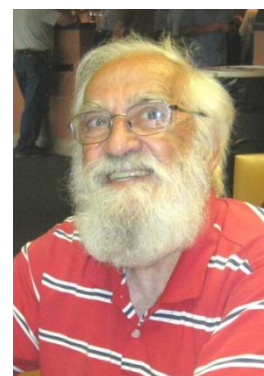
The FCC doesn't have a long term fix in place yet, and it appears the same issue is recurring with greater frequency. Applicants should expect delays in exam license processing, until the FCC can get fix the problem. The FCC has apologized for the continued inconvenience this is causing the Amateur Radio community.

"We transmit the exam sessions to FCC as soon as possible, which is usually 24 to 48 hours from the day received in our office," Somma said. "We make every effort to process each session quickly and efficiently while following FCC rules. Unless there is missing candidate information or paperwork, we normally aim to send the session to the FCC within a few days, because most of the VEC staff understands what it feels like to wait for your call sign to be issued."

Somma expressed the hope that applicants and VEs would be understanding and patient while the FCC attempts to get the EBF system up and running again.

Paper Chase

Joe, W8KNO



6th Anniversary of the Boeing 787 Dreamliner First Flight

On the 13th and 14th of December, KB7QPS near Seattle, Washington will be conducting the special event originating near Boeing Field, where the first 787 Dreamliner was based during the flight test program.



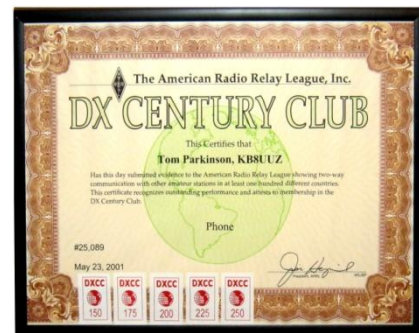
Listen near 3.900, 14.250 and 146.540 from 0000Z to 2400Z. The QSL card is not yet designed, but I have it from a jolly old elf that there will be a picture of the Dreamliner on the card.

To obtain your card send an SASE to: Greg Magone, 27492 254th Pl SE, Maple Valley, WA 98038. If you have any questions you may contact him at: greg.magone@gmail.com.

ARRL DXCC Department Announces ZL9 Name Change

The ARRL DXCC Department has announced a name change for ZL9, which will switch from "**Auckland and Campbell Islands**" to "**New Zealand Subantarctic Islands**." This will not include The Snares or any islands claimed by New Zealand south of 60° S. Specifically, the Antipodes of New Zealand and the Bounty Islands of New Zealand will count for ZL9, the New Zealand Subantarctic Islands entity.

This is not a new or changed entity but a clarification of which islands count for the entity previously known as Auckland and Campbell Islands.



Revamped FCC Web Site Expected on-line Dec 10th

From the ARRL



The FCC has announced that its large-scale website redesign will be completed by December 10. The switch to the new site is set to begin on December 10 at 0100 UTC and will be completed about 4 hours later.

"While the transition to the revamped site is expected to be completed almost instantaneously, there will be an ongoing process following this transition that will continue to involve user feedback, fixes by the FCC's Information Technology team, and content updates by policy bureaus and offices," the FCC said in a November 24 Public Notice.

The FCC said the new website has been designed to provide "better functionality, an improved design, and better searchability and navigability." Earlier this year the Commission's IT Department opened a beta-test version of the site, located at <https://prototype.fcc.gov/>, and has been gathering user comments at, <https://prototype.fcc.gov/eform/submit/feedback>.

"Extensive user research revealed how the FCC could improve the website's information architecture to make content easier to find," the Public Notice said. The FCC said its new website has been designed to operate on tablet and mobile device browsers with the display optimization based upon the device. The site utilizes a "toggle" navigation that allows visitors to browse either by "Category" or "Bureau and Office."

When the new site comes online, the familiar current FCC website will no longer be available. The FCC said web pages and files on transition.fcc.gov that have not already migrated to the new site will remain available, and existing bookmarks will be redirected to the appropriate content on the new site. While the Commission has already upgraded some of its interactive systems, including the Consumer Help Center, and is working toward improvements on similar systems, including the Electronic Comment Filing System (ECFS), these systems will not be directly impacted by the December 10 migration.

"This migration will impact the look and functionality of web pages that are coded in HTML and managed through a content management system, such as the homepage and individual bureau pages," the FCC Public Notice said. The FCC said the change to a new website design was, in part, driven by a need to start using a more modern, open-source content management system to upgrade the site's look and architecture, and to transition to a system that is compatible with the latest website innovations.

FCC Chief Information Officer David Bray has written blog posts about the website development process, and the beta site has been publically available and soliciting feedback since April. Two additional public outreach sessions will be held before the December 10 changeover to explain the new site and its functionality to interested stakeholders.



House Bill 1301 and Senate Bill 1685

The Amateur Radio Parity Act S. 1685 has been endorsed by the US Senate Committee on Commerce, Science, and Transportation. In the voice vote on November 18, two Senators - Bill Nelson (D-FL) and Brian Schatz (D-HI) - asked to be recorded as voting "no." The Committee held an executive session to consider the various legislative measures and nominations.

"Our work is not finished on the Senate side of Capitol Hill, although this is a huge step forward," said ARRL President Kay Craigie, N3KN. She urged ARRL members to continue to write, call and e-mail their Senators about S. 1685 to build up its support for the future. "We know that members' response to the call for a communications blast last week made all the difference for some Senators on the committee."

S. 1685 picked up another Senate cosponsor on November 18, when Sen Jerry Moran (R-KS), who sits on the Commerce Committee, has signed aboard the bill. "ARRL members in Kansas should contact his office to say thanks," President Craigie said. "Having an additional cosponsor who's on the Committee is especially good news."

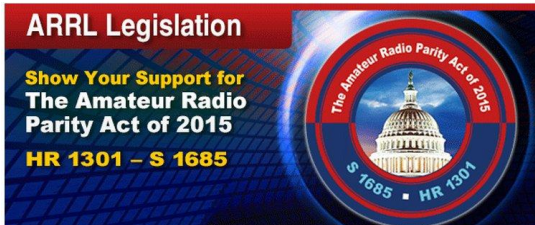
On hand to observe the Committee mark-up session were ARRL Hudson Division Director Mike Lisenco, N2YBB, ARRL CEO David Sumner, K1ZZ, and ARRL General Counsel Chris Imlay, W3KD.

President Craigie encouraged ARRL members in Florida and Hawaii to keep contacting Senators Schatz and Nelson, urging them to change their minds about the legislation. "Don't be harsh or angry," she advised. "Keep it factual and courteous, and don't give up."

On November 5, US Sen Al Franken (D-MN) signed on as the second cosponsor of S. 1685. That legislation and its US House twin, H.R. 1301, call on the FCC to extend the limited federal pre-emption of PRB-1 to cover private land-use restrictions such as deed covenants, conditions, and restrictions (CC&Rs). If the legislation becomes law, radio amateurs living in antenna-restricted communities would have the opportunity to negotiate with homeowners associations to install an antenna that reasonably accommodates Amateur Radio communication.

H.R. 1301 has 114 cosponsors as of November 18. President Craigie said ARRL members should continue to urge their Representatives to cosponsor H.R. 1301 and to thank those who already have signed on.

The Amateur Radio Parity Act of 2015 page on the ARRL website has more information on how you can become involved. The Amateur Radio Parity Act of 2015 can be found on the web at, <http://www.arrl.org/amateur-radio-parity-act>.



Happy Birthday PCARS Members

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

KC8PD	Jim	Aylward
KD8GHA	Jenna	Ziccardi
KD8RUQ	Michael	Collins
KD8ICP	Tim	Gehri
KB8AMZ	Terry	Morris
	Arlene	Kurta
KA8TOA	Greg	Ash
KB8UHN	John	Tomasik

N8XTH	Deron	Boring
K8IV	Ed	Polack
KC8RJR	Errol	Jordan
KD8YXJ	Michael	Szabo
WA8GCF	Dave	DeSimio
KD8SKL	Amy	Leggiero
K5RDL	Ruben	Luevano

PCARS Thursday Net Control

Tom, WB8LCD

Thank you all for helping with this! Anytime you are unable to take the net, please give me as much advance warning as possible!

Don't forget - 4th Thursday is NET NIGHT at the club site !!



December	
3	KB8UUZ
10	KC8PD
17	WB8LCD
24	no net
31	no net

January	
7	WB8LCD
14	KB8UUZ
21	KC8PD
28	K8CAV

February	
4	KD8FDK
11	N8RLG
18	WB2DFC
25	N8QE



The first important thing to note is: December 24 and December 31, there will be no net scheduled. Being Christmas Eve and New Years Eve, most people are otherwise obligated with family and friends, so it just makes sense to give everyone the evening off. We will also pass on "Net Night at the Club Site" for December, but come back to you in January on the 4th Thursday of the month (January 28, 2016) for a Net Night New Year's Party!

Overall, net activity has been down in 2015. When December is over I'll put together some statistics to let you know exactly where it's been. In the meantime, I would like to encourage more of you to check into the Thursday Night Net. I'd especially like to encourage more of you to volunteer to be net control operator. There's no better place to give it a try since the PCARS net is low key and friendly! It gives you a completely different perspective on being part of a net and it's really a lot of fun.

The first 10 years of PCARS nets have been a blast! I'm glad to have been a part of it. Let's see what happens on the way through our second 10 years.

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: WB8LCD@portcars.org Everyone who is a club member is welcome to have a turn!

SKYWARN™ Recognition Day - December 5th



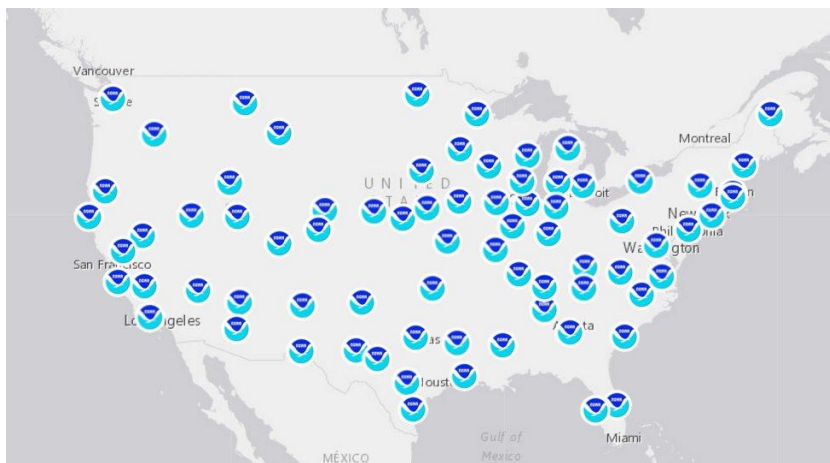
The 17th annual SKYWARN™ Recognition Day (SRD) on-the-air event is set for Saturday, December 5th, from 0000 UTC to 2400 UTC. Cosponsored by ARRL and the National Weather Service, SKYWARN™ Recognition Day pays tribute to Amateur Radio operators for the vital public service they perform. Registration is now open for stations

planning to participate from a National Weather Service (NWS) Forecast Office; a list (http://www.wrh.noaa.gov/mtr/hamradio/participating_offices.php) of NWS participating offices is on the NWS SKYWARN™ Recognition Day web page. During the 24 hour event, Amateur Radio operators set up at NWS offices contact other hams across the country. This event is also aimed at strengthening the bond between Amateur Radio operators and local NWS offices.

SKYWARN™ Recognition Day is not a contest. During SKYWARN™ Recognition Day amateur stations exchange contact information with as many National Weather Service-based stations as possible on SSB, FM, CW, RTTY, and AM on 80, 40, 20, 15, 10, 6, and 2 meter bands plus 70 centimeters. Repeater contacts are permitted.

Stations exchange call signs, signal reports, location, and a one or two-word description of the weather (eg, sunny, partly cloudy, windy, rainy). Procedures

(<http://www.wrh.noaa.gov/mtr/hamradio/opsprocedures.php>) are detailed on the NOAA SRD web page.



The volunteer SKYWARN™ program comprises nearly 290,000 trained severe weather spotters -- many of them radio amateurs -- who identify severe storms and provide NWS forecasters with reports of local weather conditions during severe weather events.

To learn more, visit the SKYWARN™ Recognition Day website <http://www.wrh.noaa.gov/mtr/hamradio/>.

Antenna SIG

Jim, AC8NT

We are still working on our magnetic loops. All the bending jigs are finished and three loops have been bent. We are working on making our own capacitors. Designs for two capacitors have been completed and parts have been laser cut. Building the caps is not easy and debugging the designs is time consuming. It has been a great learning experience and will significantly reduce the cost of the loops. The next step will be building the tuning control system.



Future plans include some NVIS designs to get ready for OSPOTA and some small space designs for those with antenna restrictions.

Rick, K8CAV

Our next Digital Special Interest Group meeting will be on Tuesday December 1st at 7:00 PM. I plan on reviewing HF digital net operations and also will be available to answer any questions or address problems you may be having with digital operations.

The Ubiquiti MESH nodes have proven to be the preferred hardware when setting up MESH networks but their one limitation has been the fact that they only have one network port. Connecting that to a switch will allow you to interface with other devices such as IP cams, a computer, or other IP devices with the exception of an internet access port. That requires a more specialized switch and Steve, K8SRR has found such a switch at reasonable cost that can be configured with an internet port. In an upcoming Digital SIG, Steve will be presenting information on this and will be available to configure user switches. **Stay tuned for details!**



PCARS has been experimenting with conducting a monthly HF digital net and have held two of them so far, with the HF net taking the place of the second semimonthly VHF digital net that the club has been running for some time. While there are many similarities between HF and VHF digital nets there are also some important differences.

The first of these is that, with the exception of the 60 meter channel allocations, operations on HF frequencies are restricted by FCC rules to particular modes on a given segment of an HF band. This means that if you operating digitally in the digital segment of an HF band, that you cannot operate voice on that same frequency. This makes running and participating in a digital net more cumbersome and requires the using pro-signs and Q signals to make it run more efficiently.

Properly adjusting drive levels for HF is also different and in some ways easier on HF. Power output and ALC levels are used to help set proper drive levels and are metered functions usually included in most HF transceivers.

Most of the HF nets take place on 80 meters, making them “local” as opposed to DX in nature and require the use of NVIS antenna systems to communicate most effectively.

The purpose of the PCARS HF digital net is to help get members familiar with HF digital operations and become proficient in digital-only net operations. There are a number HF digital nets that take place weekly on 80 meters which our net will help prepare you to successfully participate in. The net takes place the fourth Tuesday of each month at 7:30 PM (local) and will open on 3.584 MHz with an alternated of 3.583 MHz. The standard for HF digital operations is to use the Upper Side Band (USB) mode regardless of what band you are operating on. This is important because most digital modes are sideband dependent, and also because if you set your dial frequency to where the net is operating but have the radio set for LSB instead of USB, you will be several kHz off the net’s operating frequency.

So far we’ve had several members from PCARS check into this net, and also a number of folks from outside the club check in. If you’re interested in HF digital operations, set aside an hour or so the check into the PCARSDN HF net and have some K8BF big fun.

Charlie the Tuner's HF High-Lites

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



DX pickings for December are somewhat slim since many of the activations from needed countries happened for the CQ WW DX Contest that took place at the end of November. But there are a few interesting DX opportunities to be had.

Thanks to the Northern Ohio Amateur Radio Society, Northern Ohio DX Association, Ohio/Penn PacketCluster Network, AB5K & the AR TelNet Clusters Network, AMSAT NEWS SERVICE, ARRL Web, K1XN & GoList, NJ1Q & W1AW, NG3K & ADXO, W3UR & The Daily DX, N4AA & QRZ DX, K8GI, K8YSE, W8GEX & 60m News, K0BBC, DL1SBF, DL7UXG & The DX News Letter, DxCoffee.com, DXNews.com, DX-World.Net, ES1CW, F5NQL, F6AJA & Les Nouvelles DX, I1JQJ/IK1ADH & 425 DX News, I2MQP & DX Italia News, JA1TRC, J11AVY, JI3DST/JS6RRR, OH2BH, OZ6OM & 50 MHz DX News, PY5EG, RSGB IOTA Web Site, Sixitalia Weekly, and VA3RJ & ICPO, VE3ZF, VHF-DX-Portal (MMMonVHF) for the following DXinformation. And a big thank you to Tedd Mirgliotta - KB8NW and his Ohio/Penn DX Bulletins.

3B8, MAURITIUS. Operators Jan/SM6GOR and Johnny/SM6JBC are now active as 3B8HB and 3B8JB, respectively, from Mauritius Island (AF-049) until December 11th. Activity will be on 40-10 meters using CW, RTTY, PSK and some SSB. Please QSL via their home call sign, direct or by the Bureau.

9J, ZAMBIA (Special Event). Peter, 9J2HN, will be active with the special call sign 9J2JOCV from Lusaka, Zambia, between Sept 1st and Dec 31st. Activity will be on the HF bands. The special call sign "9J2JOCV" is for celebrating the 50th anniversary of the "Japan Overseas Cooperation Volunteer" (JOCV). If you need a paper QSL, send your QSL with SASE (SAE + 1IRC or \$2) to JL1IHE direct only (no bureau access): Mr. Yoshitaka KAWAKU, 2-10 Yamate-cho, Hanno-city, Saitama 3570031 JAPAN. QSL through eQSL or LoTW will be issued after the whole operation period is ended. *ADDED NOTE:* Special event station 8J1JOCV has been active from Kanagawa, Samukawa Town, Japan, since June 1st to celebrate the same thing. Activity will last until March 31st (2016). QSL via JARL Bureau or direct. QSL Manager is JR1EMO (SASE+2IRC).

AU90, INDIA (Special Event). Deepak, VU2CDP, Contest and Awards Manager of the ARSI, reports, "The Amateur Radio Society of India (ARSI) has just received permission from the licensing authorities to use the special call AU90IARU till 31 Dec 2015; similar to the many '90IARU stations on air currently. The QSL route via VU2CDP with a strong recommendation for OQRS. Logs to be uploaded to LoTW and eQSL regularly."

EL, LIBERIA. Donald, KD4UDU, is active as EL2DW from Monrovia until Dec 17th. Activity has been on 15 m (around 21305 kHz), but he is expected to be on 20/15/10 m using SSB. Please QSL via KD4UDU.

OH9, FINLAND (Special Event). Santa Claus Arctic Circle Team (SACT) will be active from Santa Claus Land (OH9SCL) during this Dec. This year activity will be very special. OH9SCL has now been active for 30 years from Arctic Circle!! This activity is mostly on the HF bands on all modes. Ops include Raimo/OH3BHL, Erkki/OH9KL, Kimmo/OH9MDV, Juha/OH9MM and possible others. Please QSL via OH9AB, direct or by the Bureau. OH9SCL award is also available. For more detailed information: <http://www.oh9ab.com/oh9scl>

PACIFIC TOUR. Freddy, F4HEC, active from the following two islands: Dec 3-9 -- From Guam (OC-026); signing KH2/F4HEC Dec 10-13 -- From Saipan (OC-086), Mariana Is; signing KH0/F4HEC Activity from both islands will be on 80-10 m using SSB. QSL via his home call sign or LoTW.

PY0F, FERNANDO DE NORONHA. Leo, PP1CZ, will once again be active as PY0F/PP1CZ from Fernando de Noronha (SA-003, DIB OC-01, WLOTA 1208, WWFF PYFF-016) between January 19-26th. Activity will be holiday style on 80-10 meters with some tries on 6 meters (if he has propagation on this band) and using CW, RTTY and some SSB. QSL him direct or OQRS (pp1cz@terra.com.br). NO Bureau or LoTW. Check out the pictures of his 2013/2014/2015 operations on QRZ.com.

TG, GUATEMALA. Jim, W8ERI, will be traveling to San Mateo Ixtatan, Guatemala between Dec 3-15th. Look for him to be active during his spare time as TG5/W8ERI using an ICOM 706 MKII and a Buddipole. Please QSL via his home call sign.

V5, NAMIBIA. Heli, DD0VR, will be active as V5/DD0VR (possibly V50VR) from Namibia starting Dec 10th for one month. Activity limited to his spare time because he is on holiday with his XYL Bigi, DE3BWR. Heli will use a KX3 with the HL-1.1KFX amplifier with 500 watts or the RZ3AH PA with GMI-11tube with 350 Watts out -- QRO SSB. For CW, he will only operate with 1-5 watts (G-QRP-Club -- NR. 7073). His antenna is a vertical. QSL via his home call sign, direct or by the Bureau.

YB2/YB9, INDONESIA. Dennis, K7BV, will be on the air as YB2/K7BV during a Bali trip between Dec 23-29th. Logs for the two portable operations will be posted on LoTW early Jan.

IOTA News

AS-079. Take, JS6RRR/JI3DST, will once again be active as JS6RRR from **Miyako Island** between 0700z, December 25th and 0000z, January 4th. Activity (usually) will be on 40/30/20/17/15/12/10/6 meters using CW, SSB, FM, RTTY and PSK31. Operations may vary in case of heavy rains or other conditions. QSL routes are as follows: JS6RRR by the Bureau using his home call sign JI3DST. Via the Bureau is best. Please check QRZ.com for more details or his Web page at: <http://blog.goo.ne.jp/ji3dst> ADDED NOTE: Take will use the special call sign 8N3KCJ/6 from Miyako Island at various time between December 26-31st. This activity is to celebrate the 40th anniversary of the "Keymen's Club of Japan". QSL via JO3OMA.

EU-125. Volker, DJ8VW, will once again be active as 5P8VW from **Romo Island** between December 6-18th. Activity will be on 160-6 meters, including the 30/17/12m bands, using CW and SSB. QSL via DJ8VW ONLY DIRECT, LoTW, eQSL or ClubLog's OQRS.

ZL9, NEW ZEALAND SUBANTARCTIC ISLANDS (Rare IOTA). It was announced this past week that operators Bob/KD1CT, Stan/SQ8X and Craig/VK5CE will be activating a rare/new IOTA, Antipodes Island (OC-286P), in early 2016. This will be the first time anyone has ever activated it. Operation is expected to take place between January 7-11th. The call sign will be ZL9A. This operation will count under the new DXCC entity name "New Zealand Subantarctic Islands" (the old name - Auckland and Campbell Islands [ZL9]) for DXCC purposes as mentioned above under "DXCC NEWS". A Web page has been activated to provide more details and help collect funds for this operation at: <http://iotahunter.org>

So there you have it for the near future. Get on the air and if you hear some rare DX that I have not listed, let me know and I will get out a qst broadcast message to all PCARS members.

I hope you had a great Thanksgiving and I wish you a very Merry Christmas from my family to yours.

GOOD DX!! Until next year..... 73

Jim, KC8PD/AAF5PD
Radio Officer, Portage County OHS/EM
Communications Unit/RACES



Wow! It has been ten years since PCARS began. It is amazing how quickly a decade can go by. For those of us who have been there since the beginning it certainly feels like we have reached a milestone. There is so much that we can look back on with a sense of pride at what the club has accomplished.

Why reminisce about the club in the EmComm column? This column has run every month since the first edition of the newsletter. No matter whether I was writing about preparedness, emergency communications or public service events, I always wanted to keep PCARS members focused on some of the key reasons the club exists. What are they? You can find them in the PCARS Mission Statement and here are the ones I am referring to:

- To help prepare our club members in being ready to assist the community with emergency communications using Amateur Radio.
- To help make the advantages of Amateur Radio for emergency communications known to the community and agencies within our community.
- To assist Federal, State, and Local agencies with emergency communications using Amateur Radio.
- Through a long-term commitment to this mission, we will be known as an amateur radio club that is caring of the community in which it thrives.
- Our satisfaction will be in part derived from the advancements our assistance and services provides to our members and the community in which we live.



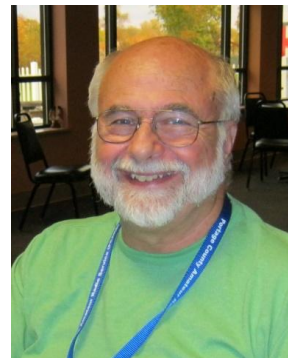
It sure is worth taking the time every now and then to remind ourselves of what got the club started and what we have been trying to accomplish over time. Our goals have included improving the communications skills of our members, educating and informing the public of the services that we can provide, and then following through by providing those services to the community.

Through our programs, activities and events such as Field Day or OSPOTA, and our continuing encouragement of members to get involved in public service events or emcomm groups we have tried to fulfill the club's mission.

Let's see what we can achieve in the next ten years. To all of our members: get involved, lend a hand, serve your community. Working together we can continue to make those mission statement objectives a reality.



Randy, KD8ZSH



These days it is not unusual to hear of hackers attacking companies or government agencies, but did you know amateur radio was hacked at its founding? There are different descriptions for hackers depending on why they do it, e.g. white hat hackers, black hat hackers, etc. You decide who this guy was,

Most people think Samuel Morse invented the telegraph, but in fact, it was around in different forms much earlier. If you look at the patents held by Morse and listed in Wikipedia, almost all of them are listed as an improvement to the system, not for inventing it. He did pioneer the use of a single wire system and of using relays to overcome the problem of voltage drops over long distances. Morse considered himself as the inventor of the telegraph.

In the days before the telegraph, a letter from London would take 12 days to arrive in New York, and as much as 73 days to arrive in Sydney, Australia. Speedy communication was essential, and line of sight drastically limited most efforts. Many people were working on the problem.

William Cooke and Charles Wheatstone introduced a working telegraph to the world in 1839 in England. The main drawback to it was that it required a multi-wire setup and relied on 5 needles that moved with the electric current to indicate the letters in a message. Samuel Morse, while visiting England, visited Wheatstone to see the device and realized that he had a better idea for a telegraph.

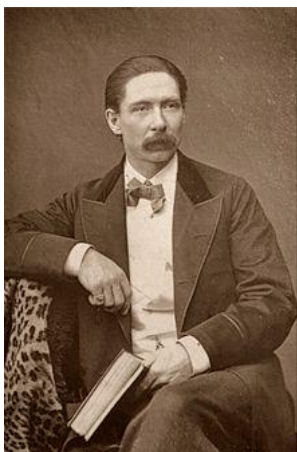
Samuel Morse's single wire system greatly improved on the current multi-wire telegraphs of the day and quickly became the standard worldwide. His Morse code became the standard also. There remained a problem, however. How do you set up telegraph poles in the middle of the ocean? Putting a bare wire in the water allowed the electrical current to bleed off. Different insulating gums were tried to coat the wire as an insulator, until it was decided the juice of the Palaquium gutta tree (called gutta-percha) was what they were looking for. Companies sprang up to begin laying underwater cable, and offered their own telegraph services on their cables.

Big fish swallow little fish and the same applies to companies. Soon the Eastern Telegraph Company, which specialized in laying cable and telegraphy, was the major player in a large portion of the world. Life was good and money was made for the company, but eventually a problem appeared on the horizon. That problem was one Guglielmo Marconi, the well to do son of an Italian merchant.



Marconi was fascinated with the concept of sending wireless signals through the air and eventually was successful in creating a device that would accomplish this amazing feat. The Italian government wouldn't support him in his efforts to start a company to profit from his new technology, so he moved to England where he found the support he needed. He applied for and received patents for his technology and began to publically boast of what his invention could do. He stated that his wireless technology was absolutely secure and that no one could intercept messages sent by it.

The Eastern Telegraph Company was worried that if Marconi was successful, it would put them out of business, so they decided to hire a spy to see what he was up to. The spy would have to know something about wireless radio, so they hired one Nevil Maskelyne, a theatrical magician and illusionist. Nevil's father was John Nevil Maskelyne, also a magician and inventor. Nevil had used wireless radio in his act, but was prevented by Marconi's patents from commercializing on the technology. Nevil took to spying on Marconi like a fish to water. Nevil was incensed by Marconi's claim of security. He had hard feelings for Marconi.



Nevil Maskelyne

One day in June of 1903 Marconi was getting ready to transmit a Morse code signal from Poldhu, Cornwall, in England to London, a distance of about 300 miles. His associate John Ambrose Fleming was in the Royal Exhibition hall in London readying the receiver for Marconi's signal. This was Marconi's first public demonstration of his invention. Details of the time and place of the demonstration had been printed in the paper, and Marconi was looking forward to a boost in his fledgling business.

Fifteen minutes before the scheduled demonstration, suddenly the receiver started sounding out a series of dots and dashes. Arthur Blok, who was Fleming's assistant, could read Morse code, and saw that the message spelled out the word "rats" over and over again, and then switch to a facetious poem accusing Marconi of "diddling the public". By the time Marconi's message was received, the damage had been done. Fleming was furious and fired off a letter to the paper demanding that the hacker be identified. Four days later the paper printed a letter from Nevil Maskelyne, confessing to the hack. He said he did it to point out that Marconi's claim of absolute security was bogus.

Marconi took this hack to heart, and immediately started work on a tuning circuit that would correct the problem. He realized he needed a tuning device that could choose between two or more simultaneous signals. His company's engineers came up with an answer, and in 1907 they were awarded a patent for the "Marconi Multiple Tuner", a device that was in use on the Titanic.

The Eastern Telegraph Company decided to include wireless radio into their standard cabling business and continued to profit. When World War 1 was joined by Britain, British ships were ordered to cut the cables leading to Germany so that they could only communicate by radio, which the British government could intercept.



Marconi

Maskelyne could not have foreseen that his hack eventually helped Marconi's company succeed, and later on helped save many lives.

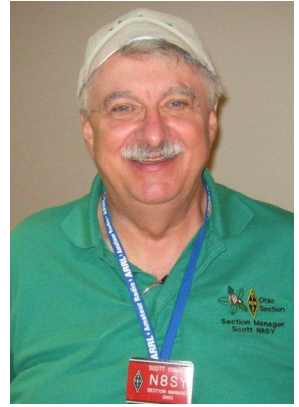
An interesting side note is that during World War 2 the British government tapped Jasper Maskelyne, grandson of John Nevil Maskelyne to head the "Magic Gang", a group of carpenters, electricians, chemists, and theatrical stage hands tasked with creating illusions to fool the German bombers into believing an army existed where it didn't and to hide an army that did exist. Fake radio signals originating from different locations completed the illusions. They even made the city of Alexandria and the Suez Canal disappear and reappear three miles away in the dessert, fooling the German bombers completely.

To get the job, it is reported that Maskelyne made a German battleship magically appear in the Thames River, using only a model and mirrors. Jasper was a theatrical magician and illusionist, like his father Nevil.

Sources: Wikipedia, The New Scientist, History.com, www.astrosurf.com/luxorion/qsl-ham-history3

Let's Talk

Scott, N8SY
ARRL Ohio Section Manager



This fall I was in Connecticut for Section Managers training and while I was there Janie and I took a drive over to Plymouth Massachusetts to look at the famous Plymouth Rock. It's really not much to look at; after all it IS just a rock. But it's really not about the rock, it's about that huge leap that our ancestors made to make a better life for themselves. Remember that when you're stuffing your face with all that food!! ALSO. Let's not forget that even though we are safe and sound on this holiday, we do have those of us guarding our great nation that aren't home. Please add them to your thoughts and prayers this season.

This year has really flown by. The motorcycle is now winterized and locked away until spring. The Buckeyes are getting just that much closer to another championship and the furry animals are getting bedded down for a long winters nap. How's about you? Have you got your furnace, fireplace and chimney checked out yet? Please don't just fluff this off, if you haven't had them checked out, do so. It could mean your life!

I've kept myself somewhat busy this year by traveling all over the state visiting with all of you at your hamfests, club meetings, picnics and breakfasts'. It's been fantastic! I've enjoyed every minute of it! As you know, the Ohio Section is the largest Section in the country. It's even bigger than a Division or two. So, with that in mind, it's only fair to say that Ohio also deserves to have a full time Section Manager. So, don't be surprised when I just "pop-in" at your meeting or function.

My visits to the Boy Scout troupes around the state have paid off. I now can say with pride we have 4 more hams in Ohio. Congrats to them and their troupe leaders. Speaking of the Boy Scouts. Our JOTA exercise here in the metropolis of Lexington was a huge success. We had a bunch of visitors, including one of Lexington's own village council members. It was fantastic watching these little guys AND GALS eyes light up when they got to participate in making contacts.



Are you getting those emails from the Great Lakes Director or Section Manager? Now, for those of you who may not want to go to all the bother of checking your account with the League, or you are just not League members, you still have a chance to get these important emails. All you have to do is to "Opt-In" to receive them. Heck, just send me an email n8sy@n8sy.com, I'll get you added to the ListServer. There's a link to do this on the Ohio

Section website, it's on the bottom left corner.. For your convenience, here's a direct link to it: <http://arrl-ohio.org/forwarder/forwarding.html> I urge all of you to make sure that everyone, regardless of whether they are a League member or not, get signed up for one of these options. You can always "Opt-Out" at any time if you feel this is not what you were expecting. But, who in their right mind would want to miss out on anything coming out of the Great Lakes Director or the Ohio Section Manager?

Are you a member of the ARRL?? If you aren't a League member, this is a great opportunity to become one. ALSO, with Christmas coming up in just a month, this makes an excellent gift to receive, or give and don't

forget, dues will be going up starting January, 2016, so if you want to save \$10, get your dues in before the first of January.

Want more information on how to join? Here's the link: <http://www.arrl.org/membership-levels> . There's even a 90 day FREE trial that you can apply for if you've never been a member.. Got questions about being a member or what the League is all about? Send me an email n8sy@arrrl.org I'll be happy to call or write to you or even call you if you've given me your phone number. We can even have coffee if you'd like and I'll buy!!

Swap-N-Shop

FOR SALE: MFJ-259B Antenna Analyzer with Case. Good condition - \$170

FOR SALE: Yaesu FT-857D Package Deal - \$675 - prefer local pickup

Yaesu FT-857D - HF/VHF/UHF 100W - compact & in excellent condition with Hand Mic & Manual

Heil Headset with Yaesu adapter cable **Serial CAT Cable** - for computer logging & control

Contact: George, K3GP by phone at 330-829-9504 evenings or weekends [02/02/16]

FOR SALE: Heathkit SA2060 Tuner, \$300 good condition

Icom 271H, 2 Mtr All Mode, used in original box \$100 **Kenwood TS-711A, 2 Mtr All Mode**, \$450 In original box with mike and manual **Kenwood TS-811A, 440 Mhz All Mode**, \$450

Kenwood TS-450SAT, HF All Mode, \$500 **Kenwood SP430 Spkr**, \$60

Kenwood TS-830S, HF All Mode, \$450 Refurbished about a year ago and never used since. Has original manual and MC-50 desk mike **MFJ-4225, Switching PS**, \$90 **Vibroplex Bug**, \$50

Mosley CL-36-M 10, 15, 20 MTR BEAM antenna, \$500 **Palstar, PM2000A Watt Meter 300/2KW**, \$100

Mosley CL-33-M 10, 15, 20 MTR BEAM antenna, \$400 **Nye Viking, MBI-001 Tuner**, \$100

If interested make offer. Also have Misc Tower parts

Contact: Allan, AB8AA by phone at 330-207-3296 or e-mail at: AB8AA@portcars.org [03/02/16]

FOR SALE: Antenna Specialist 100 watt mobile amplifier - \$100

Lafayette HA-410 10- Meter AM transceiver (Two Radios) w/AC cords, mobile hand mic., working.

Plus two spare radios for parts - \$300 for all 4 radios.

Bird VHF slugs - \$50 each

Sure-444D Base Microphone - wired for Kenwood 8-pin - \$45

Palstar AT-2K 2KW Tuner with 4:1 Balun - NEW - only a couple of months old - \$500

Contact: Jeff, WA8SAJ by phone at 440-951-6406 [02/02/16]

FOR SALE: MFJ-269B Antenna Analyzer Covers HF/VHF/UHF. Comes with manual and \$16 MFJ plug-in AC wall adapter. Cost new \$369 - Will sell for \$210

Astron SS-30M Power Supply Has Amp & Volt meters. 30 Amps at 13.8 Vdc Peak.

Cost new \$149 - Will sell for \$99.

Contact: Parky, KB8UUZ by e-mail at: KB8UUZ@portcars.org [12/02/15]



Kids are Not the Future of Ham Radio

Bob, K0NR

You've heard it a million times: our kids are the future. That statement gets applied to almost everything, including amateur radio. How can you argue with an obvious fact like that?

But I am starting to think it is incorrect.

We've had really good success on creating new hams of all ages in our Technician License Class (at the Tri-Lakes Monument Radio Association). We've been doing this for a while now and I think I am seeing a pattern emerge. We've been able to attract middle schoolers to the class and help them get their ham radio license. I've talked to many of them on the air. They've helped out with public service events. They seem to have fun playing with radios.

Then this thing called high school happens. The high school phase in the US is filled with tons of stuff to do: studying, homework, AP classes, science competitions, sports, dating, movies, driving and after school jobs.

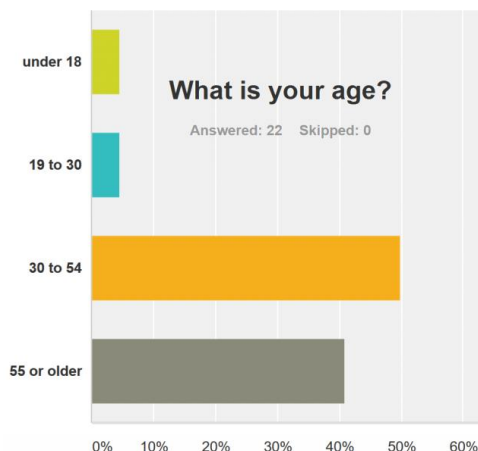
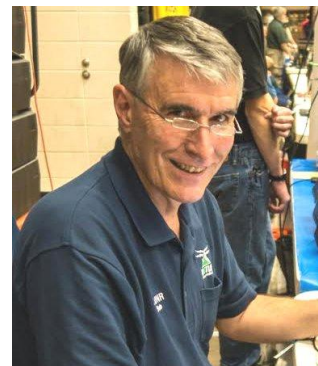


Way too much stuff. Ham radio starts to take a backseat to these normal high school activities. Then we don't see the kids at the radio club meetings or chatting on the local repeater because they are busy doing other things. Have we lost them forever? Not sure.

High school is often followed by college which has its own set of challenges: a totally new environment, away from home, a new set of people, new studies, etc. There might be a ham radio club on campus but maybe not. If a kid is not off to college they are (hopefully) out doing something to establish themselves in this world. Eventually they emerge on the other side, get a job, get themselves established, sometimes with a spouse and maybe a kid or two. By this time they are 25 to 30 years old, depending on the individual.

I recently posted about the demographics of our students in the Tech License Class (<http://www.k0nr.com/wordpress/2015/10/where-are-the-new-technicians-coming-from/>). The chart shows the age distribution of our students from our most recent class. Hmmmm, clearly most of our students are 30 or older. (Sorry, we have not collected age data with finer resolution.) This particular class is light on the under 18 crowd...sometimes we have a clump of kids in the mix.

For whatever reason, it seems that most people find themselves in a situation as an adult that causes them to say "I want to get my ham radio license." When asked why they want to get their ham license, the top response is always emergency/disaster communications, followed by backcountry communications, pursuing electronics as a hobby and learning about radio communications. I suspect that starting to be established in a community and having some disposable income also play a role.



My hypothesis is that the most effective way of growing a vibrant ham radio community is to target adults ages 25 to 40.

This age range is more equipped and ready to be ham radio operators and are still young enough that they will be around for a while. Of course, we still want to work with all age groups, including kids and retirees. We've all seen very young hams get the bug for ham radio early and carry it throughout their life. And we also see plenty of older folks get interested in the hobby as they approach or enter retirement. We don't want to miss out on either of those groups.

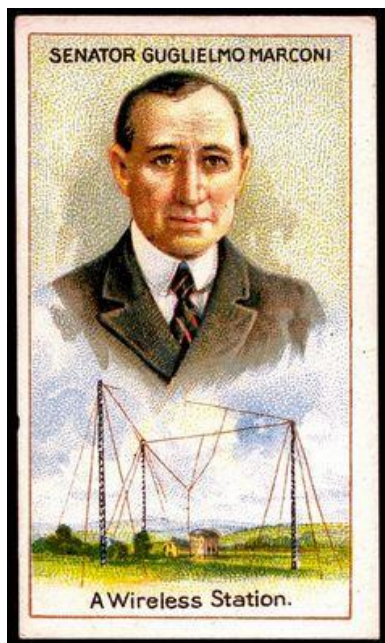
So that's my read on the situation. I've got some data to support my theory but I can't really prove it. What do you think? What are you seeing in your ham radio community?

Bob Witte, K0NR, blogs about amateur radio at K0NR.Com. You can find this post at <http://www.k0nr.com/wordpress/2015/11/kids-not-the-future/>. You can e-mail him at bob@k0nr.com. He is also on Twitter: @K0NR.

First Wireless Transmission across the Atlantic Ocean

December 12th : 1901 Marconi sends first wireless transmission over 2000 miles across the Atlantic Ocean from Poldhu in Cornwall, England, to Newfoundland, Canada

Italian physicist and radio pioneer Guglielmo Marconi succeeds in sending the first radio transmission across the Atlantic Ocean, disproving detractors who told him that the curvature of the earth would limit transmission to 200 miles or less. The message—simply the Morse-code signal for the letter “S”—traveled more than 2,000 miles from Poldhu in Cornwall, England, to Newfoundland, Canada.



Born in Bologna, Italy, in 1874 to an Italian father and an Irish mother, Marconi studied physics and became interested in the transmission of radio waves after learning of the experiments of the German physicist Heinrich Hertz. He began his own experiments in Bologna beginning in 1894 and soon succeeded in sending a radio signal over a distance of 1.5 miles. Receiving little encouragement for his experiments in Italy, he went to England in 1896. He formed a wireless telegraph company and soon was sending transmissions from distances farther than 10 miles. In 1899, he succeeded in sending a transmission across the English Channel. That year, he also equipped two U.S. ships to report to New York newspapers on the progress of the America's Cup yacht race. That successful endeavor aroused widespread interest in Marconi and his wireless company.

Marconi's greatest achievement came on December 12, 1901, when he received a message sent from England at St. John's, Newfoundland. The transatlantic transmission won him worldwide fame. Ironically, detractors of the project were correct when they declared that radio waves would not follow the curvature of the earth, as Marconi believed. In fact, Marconi's transatlantic radio signal had been headed into space when it was reflected off the ionosphere and bounced back down toward Canada. Much remained to be learned about the laws of the radio wave and the role of the atmosphere in

radio transmissions, and Marconi would continue to play a leading role in radio discoveries and innovations during the next three decades.

In 1909, he was jointly awarded the Nobel Prize in physics with the German radio innovator Ferdinand Braun. After successfully sending radio transmissions from points as far away as England and Australia, Marconi turned his energy to experimenting with shorter, more powerful radio waves. He died in 1937, and on the day of his funeral all British Broadcasting Corporation (BBC) stations were silent for two minutes in tribute to his contribution.



ARRL Dues Increase - January 1st

As was reported in the August issue of The RADIOGRAM, a meeting over the weekend of July 18th and 19th in Windsor, Connecticut, the ARRL Board of Directors approved a \$10 increase in the League's annual dues rate, effective January 1, 2016. In doing so, the Board adopted a recommendation of the Administration & Finance Committee. When David Sumner, K1ZZ, visited PCARS, he mentioned this and also said you could renew at the current rate into the future if you did so before the end of the year. **So save a few bucks and join or re-new your ARRL dues NOW.**



The Value of ARRL Membership - Why is ARRL raising dues?

The last time the basic dues rate was raised was in 2001. As of 2015, the economic realities have caught up with us. While ARRL has done a good job of keeping our costs down internally and giving you the best services we can for your money, other factors are simply out of our control. Everyone's costs have gone up in the last fourteen years. For ARRL, these include utilities, insurance, postage, and many others. We have done as much as we can to hold off a dues increase for over a decade, but now it is a necessity.

This step allows us to continue giving you the level of personal service you have come to expect from ARRL and will ensure that high-quality programs and services will continue for all members as we provide a unified voice that protects and promotes ALL of Amateur Radio.

When does the new rate take effect? January 1, 2016.

How much are dues going up?

A standard one-year ARRL membership will be increased by \$10 per year. This is about 83 cents per month, or less than 3 cents per day.

What do dues pay for?

As a member of ARRL, your annual dues pay for the education, advocacy and outreach ARRL provides to all members and to Amateur Radio as a whole:

- Advocacy to maintain meaningful access to the radio spectrum. Representation on regulatory issues at the international, federal, and state levels
- Improved awareness for Amateur Radio by increasing our liaison with Capitol Hill

- Relentless defense of our spectrum from commercial interests and against spectrum pollution
- Response to Antenna Restrictions – Amateur Radio Parity Act, zoning regulations
- Recognition and partnership with several disaster relief organizations, including FEMA, the Red Cross, Salvation Army Team Emergency Response Network (SATERN) and others
- Public Relations, awareness of Amateur Radio in the media, and resources to promote the hobby and service
- Logbook of The World (LOTW)[®], the premier electronic QSO verification system
- Representation on national and international standards bodies
- Improved ARRL Lab test procedures and test equipment that contribute to unbiased product reviews and advances in Amateur Radio equipment performance
- Outreach to students and educational institutions through the Education and Technology Program, including the Amateur Radio on the International Space Station (ARISS) program

Members also have access to numerous ARRL programs and benefits not available elsewhere:

- QST Magazine, the source for trusted Amateur Radio news, columns and product reviews since 1915. Now in print and digital formats
- Searchable index and archive of all ARRL periodicals; access to a century of design, innovation and technical expertise
- ARRL on-air operating awards
- Free license renewal assistance
- Free e-newsletters, such as The ARRL Letter, and a free e-mail forwarding service (YourCall@arrl.net)
- Emergency Communications training courses to help you better serve your community
- Ham Aid program
- Volunteer opportunities to serve Amateur Radio through the ARRL Field Organization

Why doesn't ARRL reduce operating costs instead?

We have. ARRL's 2001 operating expenses were just over \$13 million. In 2014, expenses were \$15.5 million, an increase of just 19% over the past fourteen years, considerably less than the US rate of inflation from 2001 to 2014 (32%). A detailed explanation of ARRL's budget and expenditures over these years is available in each year's Annual Report. All reports since 2002 are available online.

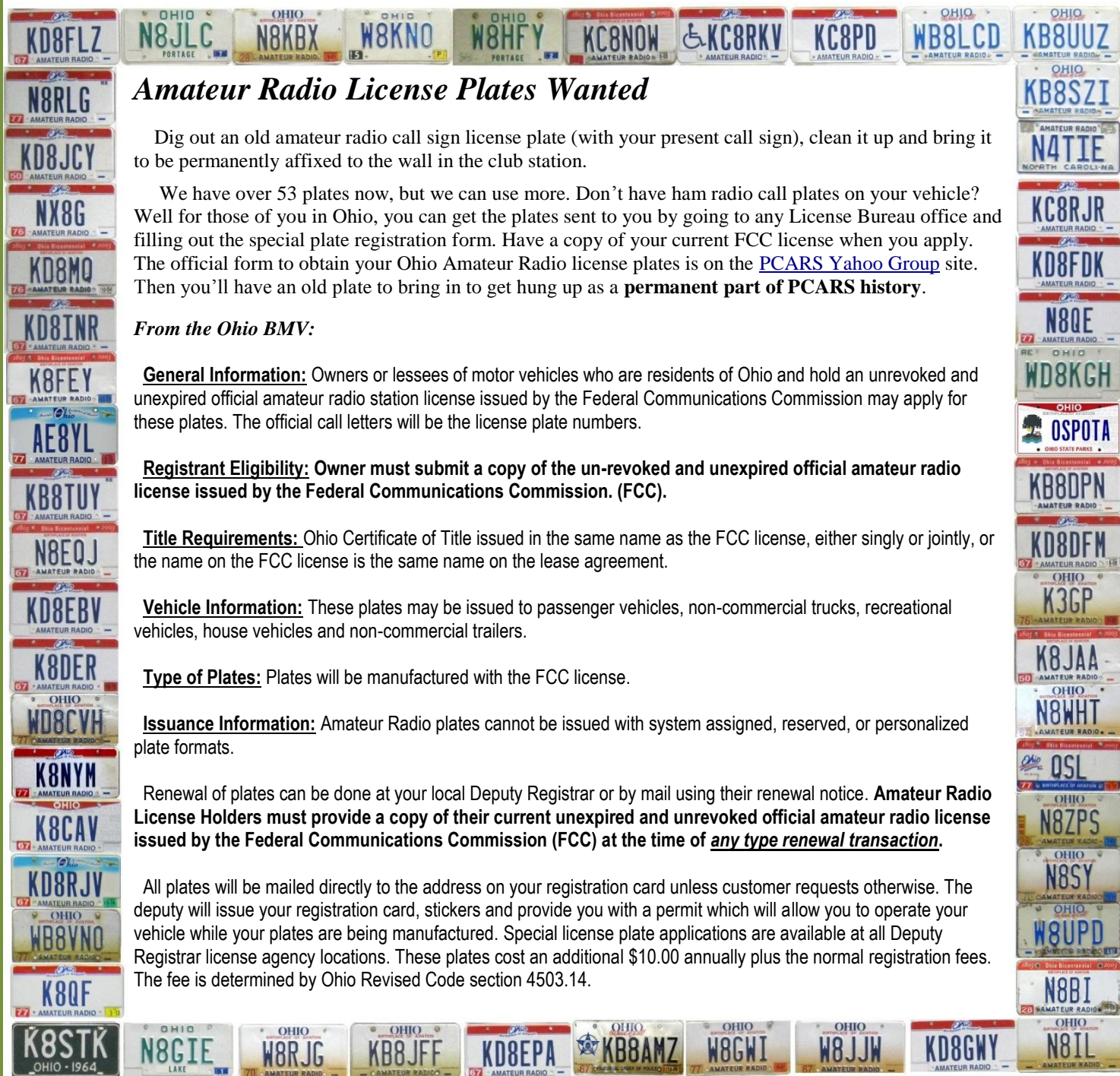
What else has ARRL done to save money?

Since 2001, we have implemented many operating efficiencies that have contributed to reducing our staff at ARRL Headquarters by fifteen percent, while either maintaining or expanding our level of service to you. In addition, we have developed additional giving opportunities, such as the Diamond Club, the Spectrum Defense Fund, and the Legislative Issues Advocacy Fund, for those members with the means and desire to support ARRL beyond dues.

How will a dues increase help?

As you discover new ways of learning, growing and having fun in Amateur Radio, you expect ARRL to be your source of information, programs and services covering the ever-expanding scope of Amateur Radio interests and activities. ARRL manages its resources judiciously and keeps costs as low as possible while maintaining a consistently high level of service for all members. Raising dues will ensure that high-quality programs and services will continue for all members as we provide a unified voice that protects and promotes ALL of Amateur Radio.

You can learn more in the October 2015 QST article, "*The Value of ARRL Membership.*" ([http://www.arrl.org/files/file/QST/This Month in QST/October2015/Value.pdf](http://www.arrl.org/files/file/QST/This%20Month%20in%20QST/October2015/Value.pdf))



Amateur Radio License Plates Wanted

Dig out an old 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 club station.

We have over 53 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 Yahoo 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 Yahoo Group

Members are reminded that PCARS has a Yahoo Group dedicated to PCARS information. It's a great site to sign up for and get on the mailing list. Check out the PCARS Yahoo Group at:

<http://groups.yahoo.com/group/PCARS/>

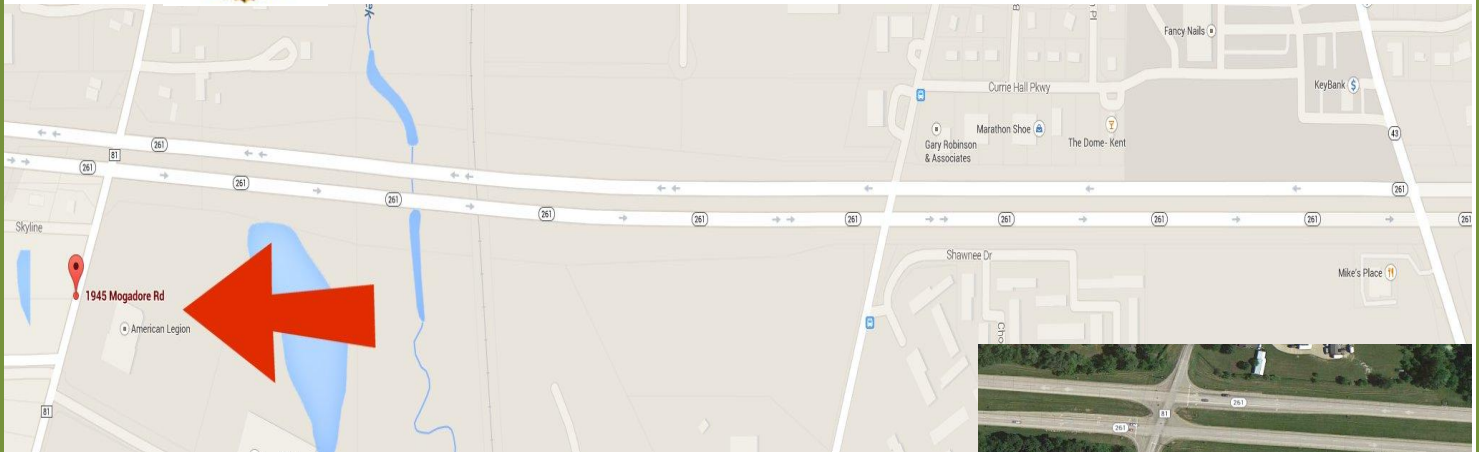


PCARS Meetings

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.

Ham Radio Christmas Wish List

M O R Z I P B G T M K P S E C B E G R C H M R W E
 R W O E Q A N E I I R D L T G W L S D O G E E V T
 D O T D W I M C K N G O N N O A B I I S P T P E H
 E Z A F G O R B A O P E I A M V A R M V O E P L G
 N B T G E O P N I I K R R P R M C Y E K A R O S J
 C A O E P L U O D C E Z H T O X I U O S S N C J R
 A L R H A K Y R G E I E T N R E Z Y L A N A A E X
 D R O G G T C T N G N L D P F O X E L M A S I P E
 W N I S T O Z I N O R T S A P H N D R D Z F D K T
 E U M G A E G R L H Y G A I N J L I W R I M O E A
 L S O X E N W E S T M O U N T A I N X L I B O S M
 D E C X E X I M S R A C P B C H M Y P R A O W T E
 T A I X C J P A F M E P B I Y O I M A L U O N E R
 T Y **D** L J U R E L R U L T E C Q A G I W D K E R P
 T E S D A E H A R I A R T A N A E N X I X A K A X
 M I R C O G E P S T E D A S B C C F N R P V V W Z
 R K G G I R E F L V V H I J U O H W J E E I T I D
 J E W R T N Y B D A I W A A J H E E D G D B K K S
 K W D E N A O M H D G A R R L F W L R V I R W G Y
 Q X M L G D I R T D U U G F I S M B X C T O F Y B
 N O S I O O E M T E S U F Y P R O H N A I P L A X
 C T I H K S O E D C A L Q U D C C N B H O L T Y Z
 R E S A H P Y L O P E C U S H C R A F T N E K D S
 A N T E N N A X C W L V P A L S T A R D I X M U T
 T S W K C X Y O Z T F O X H Y N O Y C W J F R Q D

Find all the Words - Circle in RED to drop a Hint on what YOU want Santa to bring to you!

ACOM ALINCO AMERITRON AMPHENOL AMPLIFIER ANALYZER ANTENNA
 ARRL ASTRON BEGALI BEKO BENCHER BOOK CABLE CADWELD COAX
 COMET COPPER CUSHCRAFT DAIWA DAVIS DIAMOND DIPOLE
DXENGINEERING DXPEDITION FUSE HEADSET HEIL HUSTLER HYGAIN
 IAMBIC ICOM KENT KENWOOD KESTER KEY LOGGING METER MFJ
 MICROPHONE MIRAGE NANUK PALSTAR PANAVISE PCARS POLYPHASER
 POWER PREMATEX RADIALS RIGEXPERT ROHN ROPE ROTATOR
 SAMLEX SOLDER TIGERTRONIX VECTRONICS VERTICAL VIBROPLEX
 WESTMOUNTAIN WIRE YAESU YAGI



Winter Field Day is Back



Daryl, WX1DER



After a year of uncertainty over the future of the old SPARs Winter Field Day event and ill health of SPAR's Board of Directors, it would appear that IT's BACK!!! A NEW group has now taken over the reins and is actively promoting this fun event.

Do you like the ARRL's Field Day?? If you do, you'll likely LOVE Winter Field Day as a welcome break and fun event in the middle of the cold winter months. It's an event that you can participate in alone, with a buddy, or with a group. You can operate from home or remotely, QRP or QRO, ANY mode.. your choice. Winter Field Day 2016 will fall on Jan 30-31.

There is a webpage up now, as well as a Facebook Group page you can follow for updates... <http://www.winterfieldday.com/> <https://www.facebook.com/groups/winterfieldday/>. Hope to catch you on the bands on Winter Field Day 2016!!!

One Step Closer to Activating North Korea

Polish radio amateur Dom Grzyb, 3Z9DX, has indicated that he's moving forward with his plans to operate from North Korea early next year. Earlier this year Grzyb announced that he had secured written permission to operate from North Korea in January or February 2016 and that he would be going to the capital, Pyongyang, for a final meeting to discuss guidelines for the operation. Grzyb now has informed DX News.com that he will head to North Korea in December, radio gear and GP7 vertical antenna in tow, to pin down the details of his ham radio plans.



Grzyb is said to have already procured a license to operate as P5/3Z9DX on three bands with 100 W. If he succeeds in being allowed to operate from North Korea, the P5/3Z9DX operation would be for 5 days, SSB only, on 20, 15, and 10 meters from a secured location with 24/7 government supervision. He has said he plans to concentrate on 20 meters.



The last DXCC-approved operation from North Korea took place more than a decade ago. Ed Giorgadze, 4L4FN, of the Republic of Georgia operated on SSB and RTTY as P5/4L4FN in 2001 and 2002, making more than 16,000 contacts before being asked abruptly to cease transmitting and pack up his gear. Giorgadze, who was not on a DXpedition but working for the UN World Food Program in Pyongyang at the time, had tried for more than 2 years before obtaining oral permission from North Korean authorities to operate.

The Democratic People's Republic of North Korea remains the most-wanted and elusive DXCC entity on the globe. -- *Thanks to DX News.com*

How I Spent My Summer Vacation

Tom, WB8LCD



It all started on MFJ Day at DX Engineering last February. I was talking with my Ham Radio Guru and Antenna Mentor – Ed, K8IV. I told him I had some cash in my pocket and I was thinking about replacing the Yagi on my current tower. Ed immediately advised me that I was getting old, and I probably didn't want to be climbing a tower to work on antennas. Then he suggested an alternative – a Universal Towers HDX-555 crank-up, tilt-over tower. After thinking about it for approximately 12 seconds, I had to agree with him. It seemed like the right thing to do. It wasn't too long after that two were on order, one for me and one for Ed.

Last time up the old tower



Memorial Day weekend I spent all day Saturday on my old tower, starting the disassembly process. It was slow going. Sunday morning I started climbing and got about half way up when my neighbor yelled at me to get down! She's the one whose friend owns a bucket truck, and she had him on his way over, since she didn't want to see me fall and die. With the bucket truck, what probably would have taken me about 4-5 more weeks, was done in about 3 ½ hours. Everything was on the ground and the tower was down. (This was also about the time I had a guy come over to solve a “small” leak in my foundation. That turned into a major project including excavation and new footer drains around 50% of the foundation, new gutter drains, an Egress window in Jenny's basement apartment and other assorted home maintenance issues. So, most of the summer I had 2 major and expensive projects in process.)

The first step of the new tower was to get the base in. US Towers sends you the mounting plate and associated hardware right



away, so you can get it in and let the concrete cure before you put the tower on it. A large rebar cage was specified to strengthen the base. I said “I can do that”, and I did, but it turned out to be a bigger job than I expected. We were supposed to be having a fence installed in our backyard, but the gate in the fence needed to be exactly where the tower would tilt over, so I had to postpone the fence till I knew I had the tower placement. Lucky for me I held off! Having an excavator working on the foundation, I decided to have him dig the base hole. We got it dug on a Friday



afternoon, got the rebar cage in and had the concrete scheduled for Saturday morning. I got up early and went out first thing to check the hole. Yep, the hole caved in and there was no way it was going to get fixed. We pulled the rebar cage out and fortunately were able to save it. Between weather and schedules it was about 3 weeks later that we finally got a new hole dug, and everything concreted in. Since the hole had to be re-located, if the fence had been installed as initially scheduled, nothing would have matched up.

As is, the fence could now be installed with the gate in the appropriate position for dropping the tower through it, but I still held off on that until after the tower was installed on the base.



The towers were delivered to my brothers manufacturing plant near where Mogadore Rd. and Rt 76 intersect. They came on flatbed from Kansas (shipping cost was almost as much as the towers cost) and they had the overhead cranes that could easily unload them. Each tower weighs approximately 900 pounds. We picked the towers up with Ed's landscape



trailer. Craning them on was pretty simple, getting them off was going to take some finesse. Turns out that 2 guys, some long boards to use as levers, some conduit to use as rollers and a mechanic's floor jack made pretty easy work of it. The first one was dropped in my backyard within about a foot of where it needed to be to bolt onto the tower base.



It took quite a bit of time, but, the tower was mounted and put into place. Antennas were assembled and mounted on the tower. Transmission lines, rotor line were all routed and hooked up. Through that whole process, the tower was up,



down and over several times. Everything could be done from the ground or on a step ladder. Everything worked as it should. The fence was installed. Finally, the grounding system was installed. Consisting of about 275' of number 02 copper wire, about 16 eight foot ground rods, all cad-welded together and to the tower, connected to the household electrical system.

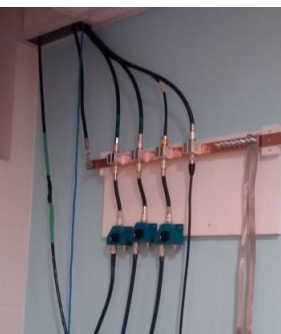


I now have my two meter antenna with the top of it's vertical radiator at about 80 feet. A 3 element 6 meter yagi right under it at about 70 feet and the tri-band Yagi just above the top of the tower at about 57 feet. Only one last thing to do before I really put it on the air. That involved

a trip to the jewelry store, but we don't need to go into detail about that here. I participated in the ARRL November Sweepstakes as the "shakedown cruise". Still had some minor issues to figure out but it all came together.

With a Carolina Windom in the trees for 40 and 80 meters, I worked just about anything I heard. Maybe not on the first shout, but ultimately I got them! I missed a sweep by 7, but only because I never heard them. So, I'm a pretty happy Ham!

Many thanks to Ed-K8IV, Rich-KD8FDK, Rick-K8CAV, Russ-NR8W, James-KD8VT and Karen-N8HUC. All gave me invaluable help, advise and harassment as the project moved along over the summer.

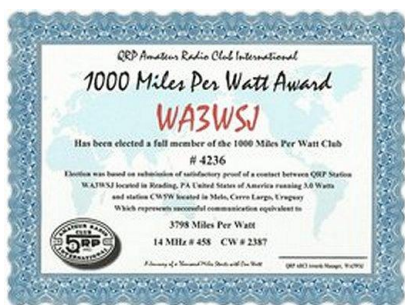


Tom, WB8LCD



This month we meet the week before the meeting – the second Tuesday is December 8th! I'll send out a reminder about that.

Last month, we went through the new Kenwood TS-590. Everyone had a chance to see how to make it work and what it was capable of. This month, we'll take a look at the Yaesu FT-950. A more complicated rig with more opportunity to fine tune its operation. If the bands are any better off than they were last month, hopefully we'll make a Q or two on low power.



Don't forget, I'm looking to see who will be the first PCARS member to show up with the “1000 Miles Per Watt Award” or a “QRP Worked All States Award”. Neither is really all that tough, but you've got to spend your time in the chair and on the air! I can almost promise you'll get your picture in the PCARS Radiogram for your efforts.

**Don't forget, Tuesday December 8th, 7:00 PM at the club site.
Hope to see you there. 73/72**

Ohio State Parks On The Air 2015



The 2015 Ohio State Parks On The Air (OSPOTA) contest is in the history books. The logs have been received and reviewed and the results are out.

First - On behalf of the OSPOTA contest committee:

CONGRATULATIONS to the WINNERS !!

Second - CONGRATULATIONS to ALL that participated !!

This year's contest was hampered by foul weather throughout much of Ohio but a number of hams got out there and got on the air and enjoyed the contest. The true amateur radio spirit was shown in being able to overcome weather and other difficulties to set up a portable station and make contacts. Your efforts are applauded.

Each year OSPOTA is growing and more amateur radio operators both in and out of Ohio State Parks are becoming involved. This particular contest is not only a fun event for most amateur radio operators, it helps to promote the adaptability of hams to showcase their expertise in being able to set up a portable communications center and make contacts.

What better way to show the general public that amateur operators can be called upon during an emergency when the need arises? So, this is not only a contest, it's also a practical exercise to keep our gear ready for when an emergency occurs and we may be called upon to assist in emergency communications.

The OSPOTA 2015 Committee:

Tom KB8UUZ - Chuck, W8PT - Joe, W8KNO - John, KD8MQ and John, KB8UHN

We'll be looking for you again on September 10, 2016 for OSPOTA 2016 !!

Here are a couple of nice 'thank yous' that came in this year:



Tom, Chuck, Joe, John, John and PCARS,

All the members of the AB8DD contest team want to thank you for sponsoring such a nice contest! Your efforts are appreciated and we do know how much work goes on behind the scene, so thank you very much and keep up the great work!

Please put us down for Kiser Lake again in 2016!

Have a great MERRY CHRISTMAS and HAPPY NEW YEAR!

Wayne, AB8DD

=====

Thank you and all the other members of your club for the nice framed certificate which arrived here quickly via Fed Ex.

I have looked at your club's web site and read some of the club newsletters on there. It appears to be one of the best clubs I know of. The club information is always interesting to read.

Before the next contest, I will have to do considerable work on my station. An intermittent in my transceiver took out my amplifier and ruined the tubes I have used for 41 years. My Antennas are in poor shape. The 40 meter antenna is sagging way down, and I backed into one of the posts that held my 20 meter antenna up.... The ground here is so hard that I didn't get the post back in place yet.



On top of all of that, I slipped off my back porch one morning when my shoes has wet grass and went down very hard on my right arm with all my body weight against one of the pointed boards at the bottom of the porch resulting in a fracture of my right arm. It still gives me problems and will most likely take a long time to heal.

The **Ohio State Parks On The Air** contest is always fun to operate. I enjoy it more than any other contest I get into. I do appreciate all that you do. The packing was great on the framed certificate. I really protected it especially when the FedEx guy dropped it over the fence - it survived and is in perfect shape. Thank You !

Have a great holiday, and again, TNX & 73.

Marvin Beach, N4NY
INMAN, SOUTH CAROLINA NEAR SPARTANBURG, SC



Greetings to the OSPOTA 2015 (Ohio State Parks On The Air) Participants

From the Portage County Amateur Radio Club's OSPOTA Committee, we would like to extend our appreciation for your participation in the eighth annual Ohio State Parks On The Air contest. You are now part of OSPOTA history and our hope is that it will be a long and rewarding one.

The OSPOTA contest was conceived with three main goals in mind: **1.** Promoting public awareness of ham radio and Ohio's beautiful State Park system; **2.** Contribute to the recognition that Ohio has a very diverse and wonderful ecology; and **3.** Promote camaraderie within the ranks of Ohio's Amateur Radio Operators. It has been with your participation that we believe those goals were achieved.

To those of you who placed in the top three spots in each category, congratulations on your efforts. You deserve your awards for your operating skills. It was a bit cold and wet during OSPOTA 2015. We are counting on better weather and having everyone do even better in OSPOTA 2016.



So until September 10, 2016 - 73!

Tom - KB8UUZ, OSPOTA Chairman
Chuck - W8PT, **Joe - W8KNO**,
John - KD8MQ, **John - KB8UHN**
 OSPOTA Committee Members



OSPOTA Web Site: <http://www.ospota.org>

OSPOTA is sponsored by the **Portage County Amateur Radio Service, Inc. (PCARS)**

PCARS Web Site: <http://www.portcars.org>

OSPOTA September 12, 2015 General Information:

55 parks activated

11 parks activated did not submit log

81 logs submitted

17 out of state logs submitted

30 Clubs represented

Top Score this year - **19,044**

30 Participating Clubs

Ashtabula Amateur Radio Club	InterCity Amateur Radio Club	OH-KY-IN Amateur Radio Society
Athens County Amateur Radio Association (2)	Lake County Amateur Radio Association	Portage County Amateur Radio Service (4)
Butler County VHF Association	Lambton County Radio Club	Reservoir Amateur Radio Association
Cambridge Amateur Radio Association	Lancaster-Fairfield County Amateur Radio Club	Sandusky Radio Experimental League
CRES Amateur Radio Club	Madison County Amateur Radio Association	Scioto Valley Amateur Radio Club
Drake Amateur Radio Club	Madison County Amateur Radio Club	Steubenville-Weirton Amateur Radio Club
Fort Wayne Radio Club	Mahoning County Amateur Radio Emergency Service	Sunday Creek Amateur Radio Federation
Fulton County Amateur Radio Club	Medina 2 Meter Group	Triangle Amateur Radio Club
Highland Amateur Radio Association (2)	Milford Amateur Radio Club	Warren Amateur Radio Association
Hocking Valley Amateur Radio Club	Mount Vernon Amateur Radio Club	West Chester Amateur Radio Association

OSPOTA 2015 - Scores

Multi Op-Multi-Radio-High Power - In a Park

Call	Park Name	Score
-	No entries in this category	-

Multi Op-Multi Radio-Low Power - In a Park

Call	Park Name	Score
AB8DD	KISER LAKE	19044
K8CY	GENEVA	13912
W8MRC	EAST FORK	12972
K8HO	ROCKY FORK	12599
W8VTD	MOSQUITO LAKE	12341
KB8UEY	ALUM CREEK	9840
WB8YHD	LAKE MILTON	8778
K8EEN	MOHICAN	7216
W8VP	BLUE ROCK	4620
K8UU	CAESAR CREEK	4550
K8BLP	GUILFORD LAKE	3857
K8LGN	LAKE LOGAN	3762
K8SCH	STONELICK	3666
K8BXQ	HARRISON LAKE	2448
K8QYL	GRAND LAKE ST MARYS	2088
N8BC	HEADLANDS BEACH	1144
WC8EMA	CAESAR CREEK	CHECKLOG
AC8GS	WEST BRANCH	CHECKLOG
N8SPW	COWAN LAKE	CHECKLOG
N8TUW	GREAT SEAL	CHECKLOG

Multi Op-Single Radio-High Power - In a Park

Call	Park Name	Score
KC8AAV	BURR OAK	7215

Multi Op-Single Radio-Low Power - In a Park

Call	Park Name	Score
K8IYO	PIKE LAKE	14832
W8CWO	JEFFERSON LAKE	2970
WC8VOA	JOHN BRYAN	2940
N8SUZ	JACKSON LAKE	2652
W8CCI	HUESTON WOODS	2278
W8UKE	STROUDS RUN	1701
W8WE	MALABAR FARM	1566
W8LBZ	EAST HARBOR	1148
N8TCP	CATAWBA ISLAND	171
KE8RV	MADISON LAKE	91
W8OVH	EAST HARBOR	42

Single Op-High Power - In a Park

Call	Park Name	Score
N8XSF	MARY JANE THURSTON	4256

Single Op-Low Power - In a Park

Call	Park Name	Score
K8FH	FINDLEY	7200
W8WDS	INDIAN LAKE	5206
W8WZZ	TAR HOLLOW	5148
N8NPT	PAINT CREEK	4788
N8RAC	VAN BUREN	3861
NF8O	MALABAR FARM	2139
K8CAV	MT. GILEAD	2075
AA8GP	STONELICK	1952
W8BAP	SCIOTO TRAIL	1680
WB3AFS	SOUTH BASS ISLAND	1363
NF8U	MUSKINGUM RIVER	1152
K8FEY	PYMATUNING	1127
KB8UHN	BARCAMP	780
N8OCJ	DEER CREEK	736
W3CRZ	ALUM CREEK	180
N2PQW	KELLYS ISLAND	98
N8OZB	KAISER LAKE	25

In Ohio - Not In Park

Call	Score
W8EOT	2200
W8RGE	1408
KB8UUZ	1333
W8BZA	1008
W8BVH	918
W8GTS	806
K8IZK	780
WB8FZW	572
KB8TUY	560
N8GBU	225
KB8DUX	420
KC8LRH	169
KD8MQ	25
AC8NP	16



Framed Certificate

Certificate

Overall High Score

AB8DD - 19044

Outside of Ohio

Call	Transmitting From	Score
N4NY	SOUTH CAROLINA	1760
WB8CTC	WEST VIRGINIA	810
W9VCF	INDIANA	675
K8GVK	MICHIGAN	520
KF3EB	PENNSYLVANIA	506
VE3PQ	ONTARIO, CANADA	484
KU8T	INDIANA	441
KB9FPY	ILLINOIS	324
KA3UOL	PENNSYLVANIA	306
KC0HPM	MISSOURI	121
N3LT	PENNSYLVANIA	120
N2OPQ	MICHIGAN	100
AB3WS	MARYLAND	81
K4VBM	GEORGIA	25
VE3RWI	ONTARIO, CANADA	25
KK4FEM	FLORIDA	9
VE2GT	QUEBEC, CANADA	9



Ohio State Parks On The Air



Ohio State Parks Activated during the OSPOTA Contests: 2008-2015

Ohio State Park	ID	08	09	10	11	12	13	14	15
Adams Lake	ADA					X	X	X	
Alum Creek	ALU			X	X			X	X
A.W.Marion	AWM	X	X	X				X	
Barkcamp	BAR		X			X	X	X	X
Beaver Creek	BEA			X			X	X	X
Blue Rock	BLU	X		X		X	X		X
Buck Creek	BCK			X		X	X	X	X
Buckeye Lake	BKL	X	X	X	X	X	X		
Burr Oak	BUR	X	X	X		X	X	X	X
Caesar Creek	CAE	X		X	X	X	X	X	X
Catawba Island	CAT					X	X	X	X
Cleveland Lakefront	CLE	X		X	X	X	N2		
Cowan Lake	COW	X	X	X	X	X		X	X
Deer Creek	DEE		X	X	X	X	X	X	X
Delaware	DEL	X		X	X		X		
Dillon	DIL						X	X	
East Fork	EFK				X	X	X	X	X
East Harbor	EHB			X	X	X	X	X	X
Findley	FIN	X	X	X	X	X	X	X	X
Forked Run	FOR		X	X	X			X	
Geneva	GEN			X	X	X	X	X	X
Grand Lake St. Marys	GLM	X	X	X	X	X	X	X	X
Great Seal	GSL		X	X	X	X	X	X	X
Guilford Lake	GLK	X		X	X	X	X	X	X
Harrison Lake	HLK					X	X	X	X
Headlands Beach	HEA			X		X	X	X	X
Hocking Hills	HOC	X		X	X	X			
Hueston Woods	HUE		X	X	X	X	X	X	X
Independence Dam	IDM				X	X	X		X
Indian Lake	ILK	X		X	X	X		X	X
Jackson Lake	JAC	X						X	X
Jefferson Lake	JEF					X	X	X	X
John Bryan	JOB	X		X	X	X	X	X	X
Kelleys Island	KEL	X				X	X		X
Kiser Lake	KLK	X	X	X	X	X	X	X	X
Lake Alma	LAL	X	X	X	X	X	X	X	
Lake Hope	LHO	X		X	X	X	X	X	

Ohio State Park	ID	08	09	10	11	12	13	14	15
Lake Logan	LOG			X	X	X	X	X	X
Lake Loramie	LOR			X	X	X	X	X	X
Lake Milton	LML	X		X	X	X	X	X	X
Lake White	LWT		X	X	X	X	X	N3	N3
Little Miami	LMI			X	X	X	X	X	
Madison Lake	MLK	X		X		X		X	X
Malabar Farm	MAL			X	X	X	X	X	X
Marblehead Lighthouse	MHD					X	X	X	
Mary Jane Thurston	MJT	X		X	X		X	X	X
Maumee Bay	MBY			X			X	X	
Middle Bass Island	MBI						X	X	
Mohican	MOH			X	X	X	X	X	X
Mosquito Lake	MST	X	X	X	X	X	X	X	X
Mt. Gilead	MTG	X			X		X	X	X
Muskingum River	MUS			X		X	X	X	X
Nelson Kennedy Ledges	NKL			X	X		X	X	
North Bass Island	NBI						X		
Oak Point	OPT							X	
Paint Creek	PTC			X	X	X		X	X
Pike Lake	PLK			X	X	X	X	X	X
Portage Lakes	POR	X		X	X	X	X	X	X
Punderson	PUN	X		X		X	X	X	X
Pymatuning	PYM	X		X	X	X	X	X	X
Quail Hollow	QHL	X	X	X		X	X	X	X
Rocky Fork	RFK			X	X	X	X	X	X
Salt Fork	SFK	X		X	X	X	X	X	
Scioto Trail	STR		X	X	X	X	X	X	X
Shawnee	SHA				X	X	X		X
South Bass Island	SBI	X					X	X	X
Stonelick	STO	X	X	X	X	X		X	X
Strouds Run	SRN	X	X	X	X	X	X	X	X
Sycamore	SYC	X		X	X	X	X	X	
Tar Hollow	TAR			X	X	X	X	X	X
Tinker's Creek	TCK	X		X	X	X	X	X	X
Van Buren	VAN				X	X	X	X	X
West Branch	WBR	X		X	X	X	X	X	X
Wingfoot Lake	WLK	N1	X		X	X		X	X
Wolf Run	WRN	X	X	X	X	X	X	X	X
		36	20	57	50	60	63	64	55

N1-Wingfoot Lake became a State Park in 2010

N2-Cleveland Lakefront was dropped as a State Park in mid-2013

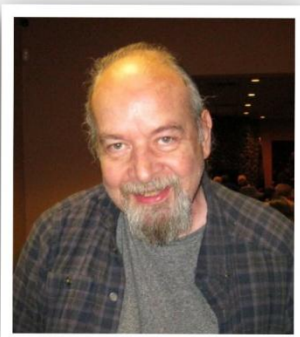
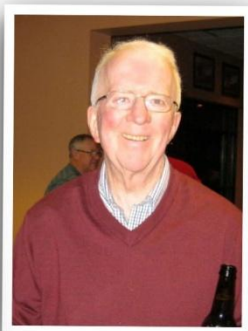
N3-Lake White State Park was closed by ODNR to work on leaking earthen dam-3 Sept 2014

Not all activated parks sent log in for scoring.

Activated Parks 2008-2015



Pictures from the November PCARS Meeting



PCARS November 9 2015

PCARS
Join Now
Discover the FUN







CQ PCARS from Warm, Sunny Florida

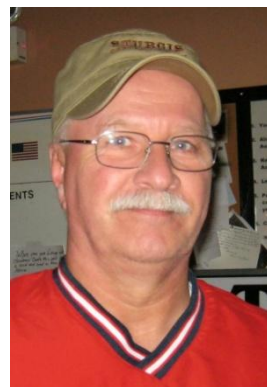


Dave, WB2DFC

CQ PCARS from Carrabelle Florida..... Home of the world's smallest police station, (really !!) .. and lots of bears ...

Hope you are all doing well..... weather here has been great !! 75 to 78, light breeze, palm trees, cold beverages... and some ham radio.

The FT 817 was in operation on 40 meters... but conditions were terrible... I even tried to make Qs from the truck (100 watts) but no luck. So I listened a lot and heard very few signals from the north... some signals from the east coast of Florida....



A large storm blew thru on Nov. 17th with several tornados in the near area. We were fortunate we only had high winds and heavy rain... then sunny and warm again....

Hope to see you all soon.... OR... we might just run away and never return... hi hi... 73 from Florida,



Thanks & 73



Tom "Parky", KB8UUZ
PCARS Newsletter Editor

All of our members (and others) look forward to getting this newsletter every month, so keep sending those inputs! I'm sure PCARS will again be known as the **BIG FUN** amateur radio club with plenty of activities to report on in this newsletter all throughout 2016 and beyond.

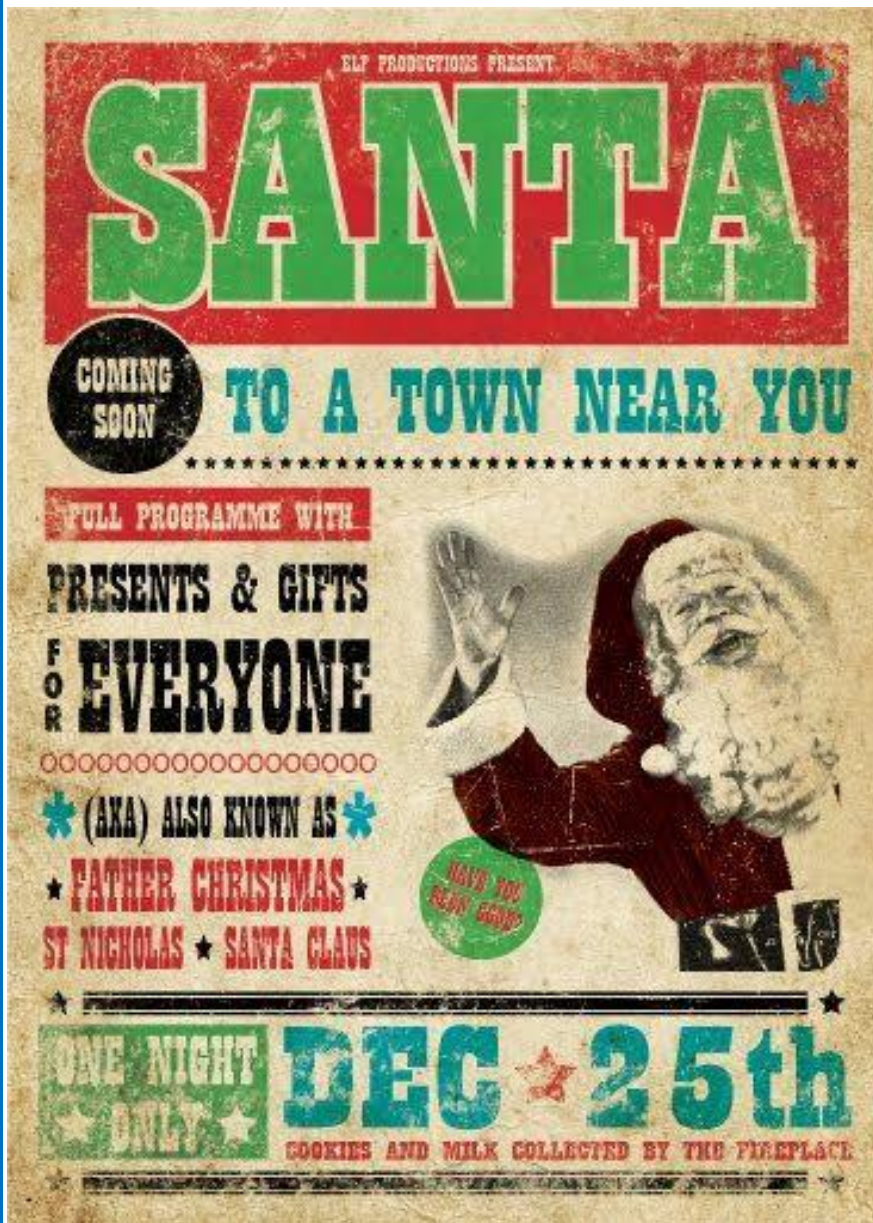
Thanks go out to the contributors for this month's newsletter:

K8CAV, KB8UUZ, WB8LCD, W8PT, AC8NT, N0AX, N8RLG, W8KNO, KC8PD, KD8ZSH, N8SY, K0NR, WX1DER, AB8DD, N4NY, WB2DFC DX News.com, the ARRL and the World-Wide Web.

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



Merry Christmas to all and may you have a Wonderful New Year



Editor's Note: rumor has it that the above picture 'might' be WB8LCD celebrating New Year's Eve in 1954.....
I wonder why we think that.





Portage County Amateur Radio Service, Inc. (PCARS)

Membership Application [] New [] Renewal

Name: _____ Call Sign: _____ License Class: _____

Address: _____

City: _____ State: _____ ZIP: _____

Phone: _____ E-Mail Address: _____

ARRL Member? [] Yes [] No ARRL Membership Expires Month: _____ Year: _____
Birthday: Month: _____ Day: _____ (don't need year)

A \$5.00 initiation fee will be assessed in the first year of membership for all new members.

Membership year is Jan 1 - Dec 31. Dues are due no later than Jan 31st. If you don't pay by 1/31 - you are no longer a member and you will have to pay the \$5.00 fee again plus dues per the schedule below.

Dues are as follows: Example - Regular Member Pays on Jan 1st \$20 for entire year. If paid on June 1st, \$15 for entire year, etc.

Check One

Dues Amounts

<input type="checkbox"/>	Regular Full Membership	Pay January 1 through May 31= \$20.00 (full year) Pay June 1 through August 31 = \$15.00 (last 7 months)
<input type="checkbox"/>	Associate Membership	Pay September 1 through November 30 = \$10.00 (last 4 months) Pay December 1 through December 31 = \$5.00 (last month)
<input type="checkbox"/>	Regular Senior Full Membership (65+)	Pay January 1 through May 31= \$16.00 (full year) Pay June 1 through August 31 = \$12.00 (last 7 months)
<input type="checkbox"/>	Associate Senior Membership (65+)	Pay September 1 through November 30 = \$8.00 (last 4 months) Pay December 1 through December 31 = \$4.00 (last month)
<input type="checkbox"/>	Family* Member	Pay January 1 through May 31= \$10.00 (full year) Pay June 1 through August 31 = \$8.00 (last 7 months)
	Call Sign of Regular Member:	Pay September 1 through November 30 = \$5.00 (last 4 months) Pay December 1 through December 31 = \$3.00 (last month)

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

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

What are YOUR Ham Radio interests:

Signed: _____ Date: _____

Mail to: Portage County Amateur Radio Service, Inc.
c/o: Mark Haverstock, K8MSH
6835 Colleen Dr.
Youngstown, OH 44512

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

Rev. 15 Jan 2015

Amateur Radio GENERAL Class ~ Upgrade Class ~



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

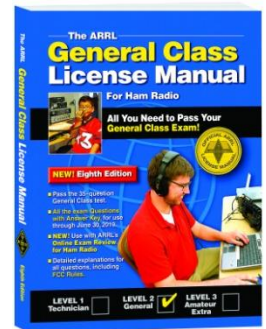
When: **Wednesday Evenings 7:00 p.m.**
Starting January 6, 2016
License testing on the last day of class - February 24th

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

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

Text – ARRL “*General Class License Manual*”
Book may be purchased from PCARS for \$30.00

Information & Registration: Contact: **Jim Wilson, AC8NT**
by e-mail: AC8NT@portcars.org
or phone: **330-342-8149**



Please register with Jim, AC8NT by January 2nd
You can pay the registration fee the first night of class

As a **General Class Amateur Radio Operator** you will be able to Contact other ham
radio operators in around the world on the HF Bands.
It will open up a whole new area of fun for you in Amateur Radio.



Portage County Amateur Radio Service, Inc.



PCARS - K8BF

Eleventh Annual

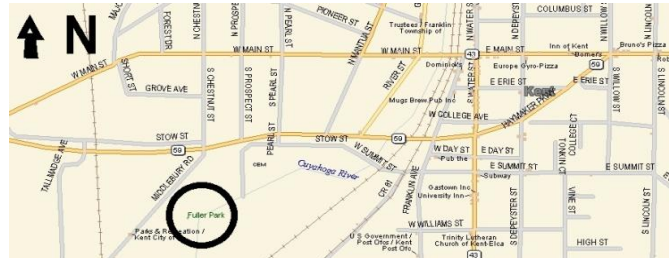
"Freeze Your Acorns Off" *(FYAO) Special Event Station*



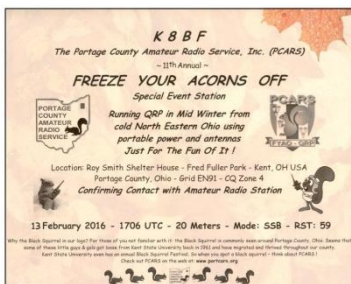
Where: Fred Fuller Park - 497 Middlebury Rd., Kent, Oh
at the Roy Smith Shelter House

When: Saturday - Feb. 13, 2016
Set up: 9am

Operating Time: 10am - 4pm EST



We will be active on CW & Phone in the General areas of the 10, 15, 20, 40 and 80 meter bands (Repeater & Echolink on the K8SRR echo link node for a certificate) and anything else we can get working. Club Call Sign **K8BF** for a certificate. Other participating stations will be using their own callsign/FYAO, or calling "CQ FYAO" (only stations at the Freeze Your Acorns Off event should use the /FYAO designator). Yes, we'll be braving the cold snowy weather of North Eastern Ohio to set up QRP stations using portable power and antennas.



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

Bob Hewett, K8FEY - 3670 Sea Ray Cove - Reminderville, OH 44202

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



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



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

Meetings: 2nd Monday of each month at 7:00 PM

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.

All are welcome to attend ~ Drop in and say hello!

PCARS uses the **K8IV** repeater: **146.895 MHz PL 110.9 ~ Rootstown, Oh ~ EchoLink Node: K8SRR**

PCARS thanks **K8IV** for making the repeater available to area hams and for PCARS activities

~ 2015 Officers ~		2015 PCARS Appointments & Committees	
President - Rick Kruis - K8CAV Vice President - Tony Romito - WA8AR Treasurer - Bob Hajdak - N8QE 3 Year Trustee - Chuck Patellis - W8PT 2 Year Trustee - James Andrews - KD8VT 1 Year Trustee - Erica Pelz - AE8YL Past President - Tom Sly - WB8LCD	ARRL Awards - DXCC WAS, VUCC, WAC	W8KNO	Joe Wehner
	ARRL Awards - WAS	KB8UUZ	Tom Parkinson
	Club Site Manager/Liaison	KC8PD	Jim Aylward
	Contest Coordinator	W8PT	Chuck Patellis
	EchoLink	K8SRR	Steve Randlett
	Field Day Chairman	W8PT	Chuck Patellis
	FYAO Chairman	W8PT	Chuck Patellis
	Historian	KB8SZI	Peggy Parkinson
	K8BF Callsign Trustee	K8FEY	Bob Hewett
	K8BF QSL Manager	K8FEY	Bob Hewett
	Membership Chairman	KC8PD	Jim Aylward
	Net Manager	WB8LCD	Tom Sly
	Net Night - Club Manager	WB8LCD	Tom Sly
~ Meetings & Net ~ 2 nd Monday of each month. 7pm Thursday night Club Net at 8 pm on 146.895	Newsletter Editor	KB8UUZ	Tom Parkinson
	OSPOTA Chairman	KB8UUZ	Tom Parkinson
	P.I.O.	WA8AR	Tony Romito
	Secretary	K8MSH	Mark Haverstock
	Tech & Gen Class Manager	AC8NT	Jim Wilson
	V.E. Liaison	N8RLG	Robert Gurney
	Webmaster	KD8MQ	John Myers



**PCARS
Active
Volunteer
Examiner
Team
Members**

KC8PD	Jim Aylward
KB8UUZ	Tom Parkinson
WB8LCD	Tom Sly
N8XTH	Deron Boring
N8PXW	Jim Korenz
N8QE	Bob Hajdak
W8PT	Chuck Patellis
K8IV	Ed Polack
K8QF	Russ Conklin
WD8CVH	Ted Wands
N8RLG	Robert Gurney
WA8CCU	Al Nagy
NR8W	Russ Williams
W8EZT	Frank Tompkins
N8OQQ	Bryan Buchwalter
AC8NT	Jim Wilson
K8MSH	Mark Haverstock
KA8TOA	Greg Ash

PCARS Incorporated
Nov. 1, 2005

First Meeting
Nov. 14, 2005



ARRL Affiliated
April 20, 2006



Special Service Club
March 22, 2010

The **RADIOGRAM** is the official *Award Winning* (ARRL Ohio Section Newsletter First Place Winner for 2012 **AND** 2013. Second Place in the Great Lakes Division for 2013. Second Place ARRL Ohio Section Newsletter for 2014. Third Place Winner in the Ohio Section 2015) newsletter of the **Portage County Amateur Radio Service, Inc. (PCARS)** – copyright © 2015. 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. 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!**

This is the **Electronic E-Mail** version of the **PCARS Newsletter, The RADIOGRAM**. The advantages to receiving this way are: You get **COLOR** pictures, active links, **NO** postage needed and the newsletter is delivered right to **YOUR** e-mail box! **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. Yes I know the cover says there is a cost, don't worry you won't get sent a bill or be hounded by bill collectors. Since this now looks like a magazine, I thought - what the heck, let's put a price on it. Every month it's listed in a different currency just for fun. Send your newsletter inputs (in .TXT format) along with in-focus pictures (not small 20 kb ones.) to the newsletter editor: kb8uuz@portcars.org



NLC



"When All Else Fails - Amateur Radio Works"