



The Wave Bender



March 2016



WRARC PREZ SEZ

2016 Officers:

President: Bob Mitzel, N8RCM n8rcm@wrarc.net
VP: Joe Wojtowicz W0JO w0jo@wrarc.net
Secretary: Jo Wilms, KD8SNW kd8snw@wrarc
Treasurer: Rose Marko, KD8TII kd8tii@wrarc.net
Past President: Roy Haren, KD8IJF kd8ijf@wrarc.net

Trustees:

Harry Harker, KD8PQK kd8pqk@wrarc.net
Russ Williams NR8W nr8w@wrarc.net
Darrin Cannon, N8DMC n8dmc@wrarc.net

Appointed Positions:

Social: Amanda Faron, KC3GFU kc3gru@wrarc.net
Publicity: Joe Wojtowicz, W0JO w0jo@wrarc.net
Nets: Steve Fabry, KC8SOY kc8soy@wrarc.net
Classes/Testing: Al Avnet ab8aa@wrarc.net
Newsletter/Web: Jane Avnet K8JAA k8jaa@wrarc.net
Facebook/Badges/logo Design:
John Fabry, KC8SPF kc8spf@wrarc.net
Historian: Terri Mitzel, KD8YYE kd8yye@wrarc.net

Officer's Meeting:

March 8, 2016, 7:00 P.M. At
Austintown, Eat 'n Park,
5451 Mahoning Ave
All members welcome

Regular Meeting:

March 15,
Davidsons 3636 Canfield Rd., Cornersburgh
Speaker: Ron Novak, KB8YHF &
Greg Ricker, W8YFD
Topic: Local Scanner Club

<http://www.wrarc.net/>

It is hard to believe we will be starting the third month of 2016 in just a few days. It seems just a few short days ago I received a call while in New Mexico telling me I had been nominated for the position of President of our club and that I had to personally accept. So I said "Sure why not," and fast forward a month and I was the President elect. Then in another blink of the eye and it was the After the Holidays Party and the other elected officers, Trustees, and I were now installed in our respective offices. Now I know by this point you are wondering where I am going with all this, and to be truthful, so am I, so if you have any good ideas forward them to me quickly please!!!



Actually, I do know exactly where I am headed, we are already two months into 2016, we have several events rapidly approaching that we need to start planning for. The anniversary of our club is fast approaching. We will be having an open net on 2-meter, and a special event HF station on 20 and 40 meters in March. Field day will be the last full weekend in June at Elser Airport and also we have been requested back at several events which we have previously worked.

My point in this is, we need to start now making sure our equipment is in good working order, batteries holding a charge, and mobiles talking well. If you are having any issues, we have several great "Elmer's" in our group who will be happy to help out if you ask. YOU the MEMBERS, of our club are what make us what we are. You are the foundation, your Board and Officers build on and we NEED YOU to come out and participate and join us in showing the Mahoning Valley what a great group we have and that we not only say we are a service club, but show everyone that we are what we claim.



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PREZ SEZ - CONTINUED FROM PAGE 1

That being said, I would like to thank all of those that ventured out into the snowy weather last Tuesday for our monthly meeting, I was surprised and very happy by the number of members that were in attendance. We voted in another new member at the meeting and I would like to once again welcome Greg Jackson, K2GRG, as the latest member to join our group.

We finished the General class which was running in conjunction with an Extra class and had a test night on Wednesday, February 17, 2016. We've added a new Technician, upgraded a new General, and upgraded a new Extra class operator to the ranks of Amateur Operators. Congratulations to all of you.

Looking forward to hearing you on the air,

73, Bob



DAYLIGHT SAVING TIME..
Don't forget on Sunday, March 13
you need to move your clocks ahead 1 hour
for Daylight Saving Time..

WHAT'S COMING UP?

- | | |
|----------|---|
| March 02 | Testing at ITT |
| March 08 | Board meeting - Eat'n PARK, Austintown open to all interested members. |
| March 13 | Daylight Saving Time begins at 2:00 AM |
| March 14 | National π Day |
| March 15 | Meeting at Davidsons' |
| March 19 | WRARC Schematic Workshop |
| March 20 | WRARC 6th anniversary Net & Spl Event Station |
| April 12 | Board meeting - Eat'n PARK, Austintown open to all interested members. |
| April 19 | Meeting at Davidsons'
Speaker: Scott Yonally, N8SY, Ohio Section Manager |



Amateur Radio Operator "Amateur means we're simply professional volunteers" ARRL reflector

IMPORTANT LOCAL WEB SITES

[<arrl-greatlakes.org/>](http://arrl-greatlakes.org/) ARRL Great Lakes Division Web Page

[<www.arrlohoio.org/>](http://www.arrlohoio.org/) ARRL Ohio Section Web Page

A WORD FROM OUR VP

For the last five years or so, I've been trying to accomplish something I had wanted to do since high school, which was a lifetime ago for me, and that was becoming a HAM radio operator. I wanted to get the Amateur Extra license and, at the same time, slowly build my "shack," piece-by-piece, until it was complete. I'm happy to say I'm almost there.

Along the way, when I first earned my Technician's license several years ago I, like many other "newbies" to the hobby, was highly-confused and not sure what to start with from all the different modes available along with all the various radio and radio accessory manufacturers and all of the equipment, antennas, etc. that's out there.

After looking at a number of different manufacturers and their radios, I initially decided to buy an ICOM 880h dual-band (2m/70cm) mobile radio and ICOM IC-80AD dual-band (2m/70cm) a hand-held transceiver. Each one of these radios also had D-Star (i.e., Digital Smart Technology for Amateur Radio) capability which is proprietary technology to ICOM products only. In my opinion, two of the great things about ICOM products is that they generally have "cutting-edge" technology, and their products are built with the highest quality. Two of the not-so-great things are the price and the complexity of their instruction manuals. While they are "pricey," it basically comes down to the old saying, "You get what you pay for." If something is cheap or free, that's usually the value of what you get.

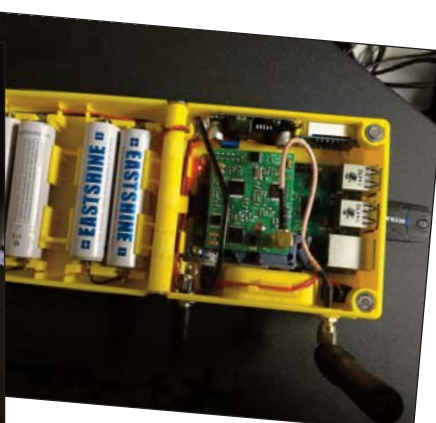
So, even though I had ICOM radios with D-Star capability, I did not do much with it the first few years as I was concentrating more on upgrading my license and building my HF shack. On top of that, D-Star had a really steep learning curve. Since then, however, ICOM has come out with some really super products that has made D-Star more "user-friendly" and understandable.



I had been monitoring what was going on with ICOM and D-Star. So, I recently sold my ICOM IC-80AD and purchased the new ICOM 51-A Plus. This hand-held radio is remarkable. I've included a picture of it in this article. Some of the many features include a built-in GPS, the ability to search and locate both nearby FM and D-Star repeaters (you can download the repeaters and their programmable settings from a free website), and improved D-Star capabilities. There are a lot more features, but there isn't enough room in this article to cover each one of them. You can read all about it by going to their website, <http://www.icomamerica.com>.

Another great recent development was the creation of a product called a DV Mini Mega with DV meaning "Digital Voice." This, basically, is a little D-Star repeater that you can either use in your home, or you can also take it with you anywhere and it will work anywhere you have WI-FI internet access. At home, I use my WI-FI system, but when I'm out, I can use my iPhone's "Personal HotSpot" feature when driving in my car. The DV Mini Mega can be powered by an AC adaptor, a cigarette lighter adaptor in the car, or totally wirelessly by inserting either two or four 18650 rechargeable lithium batteries.

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The DV Mini Mega primarily consists of the Hardened Power Systems custom case, a Raspberry Pi circuit board, DV Mega Dual-Band circuit board, MicroSD Card, voltmeter and USB wireless network adaptor. It comes "unassembled," so you have to spend some time putting it together. I've included a few photos of the inside/outside of the DV Mini Mega. The DV Mini Mega is 4" x 4" x 2" and weighs just 14 ounces with the batteries and is small, powerful and portable.

The MicroSD card comes with a pre-loaded program to program the DV Mini Mega which can usually be done with an HDMI cable and a recent model "Smart TV" or your computer. Programming is relatively easy once you understand how everything works. When programming the DV Mini Mega, you can use either a 2m or 70cm simplex frequency and then program the DV Mini Mega to link to the D-Star repeaters and reflectors.

I also use a local D-Star repeater, K8WGR B, which is on 442.725MHz, (+5.0), PL: 88.5 which I believe is housed with the local 147.00MHz FM repeater. You can use either the local repeater or the DV Mini Mega. There are thousands of D-Star repeaters/reflectors throughout the world. Additional information regarding D-Star is available at www.DStarInfo.com.

The ICOM 51-A Plus can be purchased for around \$350-\$400, the DV Mini Mega Bundle (from GigaParts.com) for about \$400 and I'd highly recommend getting the IC-51A Plus programming software from www.RTSystems.com for about \$50. So, for about an \$800 investment, you'll have a great FM and D-Star transceiver.

The "beauty" of D-Star is that you can speak to amateur radio operators around the world from anywhere and the quality of the sound is astounding. It is extremely clear and understandable and you don't have the noise and interference you have on HF or FM. In my limited time using D-Star, I've spoken to other HAMS in New Mexico, Missouri, California, England and Ireland, to name a few, and that was while I was driving in my car. I am, by far, no expert on D-Star, but am learning more all of the time. If anyone has any questions or would like more information about D-Star or some of the ICOM products, you can contact me at (330) 544-5865 or W0JO@arrl.net.

Also, don't forget our next club meeting which is scheduled for Tuesday, March 15, 2016 at Davidson's Restaurant, 3636 Canfield Road, Canfield, OH 44406. Dinner is at 6:00pm EDT and our meeting starts at 7:00pm EDT. Our scheduled speakers for March's meeting will be Ron Novak, President and Greg Ricker, Vice President, from the local Scanner Club which should be very informative and interesting. Thanks to Doug Sage, KB8TPG, for helping me on this and hope all goes well for him. We welcome all members to our meetings and those individuals who are interesting in learning more about amateur radio.

73, Joe, W0JO
VP/WRARC

CONTACT WRARC ELMERS WITH YOUR QUESTIONS - QUESTIONS@WRARC.NET

Avnet, Allan AB8AA

Antennas, radio setup, mobile,
grounding, classes, anything
anything

ab8aa@arrl.net

Beatty, Dave KC8WY

Yaesu FT8900, FT8800, Mobile
???

kc8wy@zoominternet.net

Fabry, Steve KC8SOY

kc8soy@yahoo.com

Haren, Roy KD8IJF

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Williams, Russ NR8W

Electrician, tele-data, Amateur Extra
ICOM radios, D-Star

rwiliams@neo.rr.com

Wojtowicz, Joe W0JO

w0jo@arrl.net



Used with permission

He who is afraid of asking, is afraid of learning

Articles from members for the Wave Bender are encouraged. They must be received by the editor one week before the end of the month. Please send your articles to: k8jaa@arrl.net, and put WRARC on the subject line of your email. You may also send your articles to the editor: Jane Avnet, 2050 E. South Range Rd., New Springfield, OH 44443

Join us for the WRARC Friday night Net 9:00 P.M.

145.270, PL -110.9

Upcoming Net Control Operators

Mar. 04	Dennis, KA8DJM
Mar. 11	Joe, W0JO
Mar. 18	Bob, N8RCM
Mar. 25	Roy, KD8IJF
Apr 01	Steve, KC8SOY
Apr 08	Terri, KD8YYE
Apr 15	Rose, KB8TII
Apr 22	Frank, KD8YZE
Apr 29	Dave, KC8WY
May 06	OPEN
May 13	Joe W0JO

**Contact Steve, KC8SOY to take a turn at Net Control
330-774-6346**



WRARC Simplex Frequency 146.565

Mahoning County ARES® Nets

1st Monday 8.30 PM ET W8QLY Repeater - 146.745 (PL 110.9)

&

3rd Monday 8.30 PM ET W8QLY Repeater - 146.745 (PL 110.9)

We thank MVARA for the use of their repeater

W8SGT is facilitating The Ohio HF net every Tuesday - 7:00 PM

The net is run from the State of Ohio EOC on the

Ohio ARES Admin frequency 3875 kHz LSB

moves to 7240 Khz after 20-min.

All are welcome to check in.



**The Ohio ARES/OES Digital Emergency Net held every Tuesday at 8:00PM.
held on 3585 kHz USB.**

Please note all digital communications are Upper Side Band.

<http://www.http://ohden.org/> for net details. Net Manager Gary NJ8BB

COLUMBIANA COUNTY DIGITAL NET

Wednesdays 8:30 pm - 9:30 pm

145.510 MHZ SIMPLEX

**NBEMS/FLDIGI is being used training on message handling
capabilities of FLDIGI/FLMSG. Start with BPSK-125 other modes may be used for testing**

**First Wednesday of the Month Mahoning County Skywarn Net
is held on the W8QLY repeater 146.745 (-) at 8:30P.M.**

Thanks & 73

All of our members (and others) look forward (hopefully) to getting this newsletter every month, so keep sending those articles, jokes, and suggestions!

Thanks goes out to this month's contributors; W6UMH, N8SY, KC3GFU, W0JO, N8GOB, KC8SOY, WO8Y, K8NI, iW5YI, the ARRL and the World-Wide Web.

MAHONING COUNTY ARES

Mahoning EMA Director Dennis O'Hara, left, and Regional Red Cross Director Karen Conklin, coordinate the distribution of bottled water in Sebring, Ohio.

[Courtesy of Stan Broadway, N8BHL 01/28/2016]



ARES Volunteers (made up of the three Mahoning county Amateur Radio Clubs. MVARA, WRARC and 20/9) Help to Distribute Water in Ohio Community with Lead-Tainted Water

Flint, Michigan, is not the only community with water problems due to high lead content. During the week of January 18, some 8100 water customers in Sebring, Ohio, were notified that they, too, had problems with high lead content in their drinking water. On January 22, both Ohio and Mahoning County emergency management agencies began passing out bottled water in Sebring. Mahoning County ARES Emergency Coordinator Wes Boyd, W8IZC, activated ARES to assist.

"Response on the workday was low, but a handful of ARES volunteers were able to respond," said Ohio Section Emergency Coordinator Stan Broadway, N8BHL.

Boyd said, "EMA and Red Cross were overjoyed that radio operators came to work not needing a radio."

ARES volunteers joined others in moving and distributing pallets of bottled water, and another call went for weekend duty. ARES members from neighboring counties volunteered. All told, the volunteers moved more than 166 pallets of water in 6 days.

"This is a perfect example of being ready to serve in whatever capacity we can, in order to help our communities. Sometimes it doesn't involve only operating a radio," Broadway said. Source: ARRL reflector



N8BHL Station: Elecraft K3, Icom 756 Pro II, Rig Blaster Plus, Heath 2050 Tuner, Swan Mark II Amp, HRD/N1MM/Fldigi. Station 2: Great old FT-102, LDG AT-1000 Autotuner, Rig Blaster Plus, Homebrew sweep-tube 6LQ6 amp, HRD/N1MM. Force12 C4S, fullwave 160 Loop, G5RV. Also running Icom 706 mobile.



BIRTHDAYS THIS MONTH

KB8VRF	Jack Twaddle
WB8LCD	Tom Sly
KD8NFD	Carol Gottesman



SPECIAL HF EVENT FOR WRARC'S 6TH ANNIVERSARY

On the 20th of March 2016 the club will be doing a special event on HF radio. It will be on 20 meters at 14.310 MHz +/- 5kc and on 40 meters at 7.170 MHz +/- 5Kc. However you can work anywhere you want to. The time will be from 10 AM to 6 PM.

Any one can get on and help with the event. We would like all members that have HF to join in and work some stations. We will be using the club callsign, W8WRC - (Whisky Eight Whisky Romeo Charlie).

If you do work the event please keep a paper log and get it to me as soon as you can. The club has a Log-book-of the world and a EQSL account. I will see to it that all contacts get logged to the accounts.

If anyone wants to work the event but does not have HF, or is not sure what to do please contact me before the event. For your convenience Visit our Website to download a log sheet <www.wrarc.net/6thannivlog.pdf>

73, AB8AA <ab8aa@wrarc.net>

FEBRUARY TEST SESSION

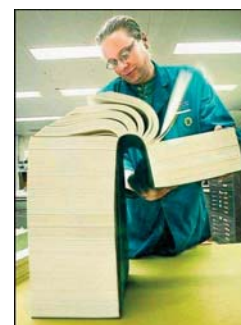


We had three Hams testing at our February Test Session. Technician, Ken Jennings, KE8DGD; Upgrade to General, Candace Pryor, KE8CWH; upgrade to Extra, Paul Gugliotti, KD8DEL. - All passed the licence they came for. Congratulations to you all.

Those VEs who came to help with W5YI testing, Al Avnet, AB8AA, contact VE; Dave, KC8WY; Pete, N8XOE; Dave, KD8NZF; Jane, K8JAA. Thanks for your help.



Just letting you know that the book, "Understanding Women" is now out in paperback



HAM RADIO A LASTING TECHNOLOGY, HOBBY

First Posted: 5:30 pm - January 26th, 2016

By Scott Cousins - For the Telegraph COLLINSVILLE, IL. —

When everything else fails, ham radio operators will still be there.

COLLINSVILLE, IL. — When everything else fails, ham radio operators will still be there. For many amateur radio operators, that is their motto, and hundreds from throughout the Midwest came out Saturday to shop, talk and listen to experts at Winterfest, an annual meeting put on by the St. Louis and Suburban Radio Club.

Between 800 and 900 were expected to attend the one-day event held at Gateway Center in Collinsville, according to Winterfest Chairman Rebecca Carroll. She said it combines a convention and swap meet, and included more than 200 tables of merchandise ranging from antique vacuum tubes to modern digital equipment. And although some of the technology is changing, she said it is still pretty basic. "Amateur radio is not dependent upon technology like digital communication," Carroll said. "It runs on radio waves and can be run on battery power or solar power. If we had a major catastrophe and had the cell towers taken out, amateur radio could be up and running in a matter of minutes."

In addition to the dealers, clubs and individuals buying and selling equipment. One hazard of the hobby is that ham operators sometimes end up with "extra stuff." Rich Barker, of Farmington, Missouri, was one of those. He had a table and was selling off some of his equipment. "I've been collecting all my life," he said. "I've been a ham operator since 1965. I started messing around with crystal radios and then started listening to short wave, then a friend and I got interested." Like many, he enjoyed talking to people over the airwaves. "I've been talking to the same bunch of guys for more than 30 years, we get on every day of the week," he said.

Many of the booths were occupied by law enforcement and other governmental groups that maintain very close ties with the ham radio community. Jim Krampert, warning coordination meteorologist with the National Weather Service in St. Louis, said his agency has relied on amateur radio operators for decades. "We use ham radio a lot during our severe weather operations," he said. "The ham radio operators have volunteered for years to collect data out there. "When all else fails, ham radio is still going to be there," Krampert added. "They're very serious about providing that communication." Mike Stokich, of Harrisburg, said the public service aspect of ham radio operations is one of the things that drew him to the hobby. He was looking for "odds and ends, pieces and parts," from various booths. Like many, he wore a hat with his call sign.

Jim Krampert received his license in August. "Back in '97 or '98, in junior high, a local ham did a class in school," he said. "I got my novice ticket then and got away from it." In addition to the communication, many enthusiasts get involved because they like to build things. Stan Morgan, of East Alton, has been an operator for about eight months. "In the military I was an electrician, this is a chance for me to rekindle some of that, play with some electrical stuff," he said. A big difference today is that operators don't have to learn Morse code to get their licenses, but many still learn it. "Morse code was the original way to have communication between stations, there was no voice at one time." His items included a number Morse code keypads — some dating back to the 1930s, as well as vacuum tubes. "Even today you can punch a single through with Morse code that will not go through with voice," he said.

For more information about Amateur Radio in the Youngstown area, visit the Western Reserve Amateur Radio Club's web site at www.wrarc.net/.

Downed Electrical Wires

I learned quite a bit from this video. I knew the basics, but not the latter part. Please watch it all the way through ... Could save your life.

Very good information for all of us!

<https://www.facebook.com/imtiaz.paracha.35/videos/10153358630293789/>

WHAT IS SKYWARN®?

The effects of severe weather are felt every year by many Americans. To obtain critical weather information, NOAA's National Weather Service (NWS), part of the U.S. Department of Commerce, established SKYWARN® with partner organizations. SKYWARN® is a volunteer program with nearly 290,000 trained severe weather spotters. These volunteers help keep their local communities safe by providing timely and accurate reports of severe weather to the National Weather Service.

Although SKYWARN® spotters provide essential information for all types of weather hazards, the main responsibility of a SKYWARN® spotter is to identify and describe severe local storms. In the average year, 10,000 severe thunderstorms, 5,000 floods and more than 1,000 tornadoes occur across the United States. These events threatened lives and property.

Since the program started in the 1970s, the information provided by SKYWARN® spotters, coupled with Doppler radar technology, improved satellite and other data, has enabled NWS to issue more timely and accurate warnings for tornadoes, severe thunderstorms and flash floods.

SKYWARN® storm spotters are part of the ranks of citizens who form the Nation's first line of defense against severe weather. There can be no finer reward than to know that their efforts have given communities the precious gift of time--seconds and minutes that can help save lives.

Who is Eligible?

NWS encourages anyone with an interest in public service and access to communication, such as HAM radio, to join the SKYWARN® program. Volunteers include police and fire personnel, dispatchers, EMS workers, public utility workers and other concerned private citizens. Individuals affiliated with hospitals, schools, churches, nursing homes or who have a responsibility for protecting others are also encouraged to become a spotter.

How Can I Get Involved?

NWS has 122 local Weather Forecast Offices, each with a Warning Coordination Meteorologist, who is responsible for administering the SKYWARN® program in their local area. Find a class in your area: Training is free and typically last about 2 hours. You'll learn:

- Basics of thunderstorm development
- Fundamentals of storm structure
- Identifying potential severe weather features
- Information to report
- How to report information
- Basic severe weather safety

**Basic SKYWARN Spotter Training**

Monday, March 22, 2016, 6:30 PM
Columbiana Career & Tech CTR
9364 State RT 45, Lisbon, OH

Wednesday, March 30, 2016
TIME: 5:30 PM (1730) sign-in 6:30 PM (1830)
Austintown Fitch High School Auditorium
4560 Falcon Dr.

For information Contact:

Art Burnett (KB8UNJ) @ 330-783-0964
or Dean DeMain (W8YSU) @ 330-788-4271



HAM RADIO OPERATORS HAVE BEEN DESIGN ENGINEERING INNOVATORS

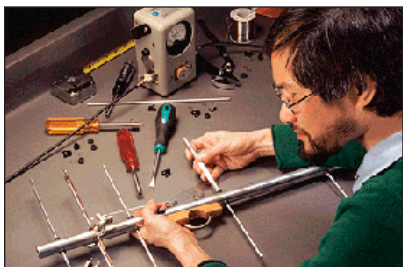
Nancy Golden, Contributing Writer, 1/23/2016

Readers of Design News come from many areas of expertise and we all have one thing in common -- we all love innovation. We are made to create and as we see on Design News, that creativity takes many different forms.

For instance, ham radio was at the start of radio communications right alongside broadcasting and wireless telegraphy (think Morse code). While no one knows where the term "ham" originated, it refers to amateur radio operators and has a long history with the first licenses granted in 1912.

Amateur radio has come a long way from the original and dangerous "spark" method of generating radio waves, using a strong electrical arc. If you follow the history of amateur radio enthusiasts, they have continually sought more efficient designs and improved communications that incorporate the latest technology. Just like any design engineer, hams are constantly striving to use their technical skills and the parts and equipment available to them to improve and innovate, in their case ways to communicate through radio waves.

ham radio operator



(Source: ARRL, Inc., The National Association for Amateur Radio, Website www.arrl.org)

Reasons to consider joining the ranks of ham radio operators:

- Hams have an illustrious history. Amateur radio operators played vital roles during World War II as operators and engineers. That tradition of service extends to the present with their support of public safety organizations and relief organizations during national disasters. The ARRL (The American Radio Relay League) has been in existence since 1914 and serves as the primary representative of amateur radio operators at local, state, federal and international levels of government and to regulatory bodies such as the FCC (Federal Communications Commission). ARRL has a legacy of public service that started in 1935 when ARES (Amateur Radio Emergency Service) was created to provide training so that radio operators could assist in providing communications during times of disaster management.

ing times of disaster management.

- Hams are technically proficient in many areas. There are numerous amateur radio satellites in service orbiting the earth providing voice, Morse code, and data communications. Most astronauts are also hams and the International Space Station houses a ham station that can be used by the astronauts and hams on the ground.

amateur radio satellite orbiting space



(Source: ARRL, Inc., The National Association for Amateur Radio, Website www.arrl.org)

- Hams use their technical skills to communicate through radio waves in many different ways. To learn more about the DIY magic of ham radio check out this video.

Each decade of technological advancement has found hams at the forefront. In the 1970's an extensive network of relay repeater stations built by hams provided a way for regional low-power communications, the 1980's saw hams utilizing microprocessors in a new age of digital communications, and today hams are continually searching for ways to utilize the potential of computer technology and the internet in their constant quest to improve radio communication.

Amateur radio encompasses many different hobbies under one umbrella. To name just a few, hams today can be found creating new computer applications, bouncing signals off of meteor trails and earth-moon-earth reflections, and conducting research like Nobel Prize winner in Physics Joe Taylor, who studies weak signal detection to facilitate low power communication. Public service activities that include emergency response and assisting any organized effort where communications is essential makes ham radio a valuable asset to the community. It is also a great way to make new friends and is just plain fun!

Anybody can join -- all walks of life are represented on the airwaves and you are on a first-name basis with everyone else regardless of your profession. But unlike my CB radio days, becoming a ham does require getting a ham radio license. By getting the first license that is available for newcomers, called the tech-

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DESIGN NEWS - CONTINUED FROM PAGE 11

nicians license, you will be able to begin communicating on the airwaves. I am currently studying to pass the 35-question exam that covers rules, operating procedures, and basic electronics so that I can join the ranks of ham radio operators. If you would like to get more information or learn how you too can start down the road of being a ham radio operator, visit www.arrl.org/ for lots of great information.

Source: Design News web site

WRARC TEST EQUIPMENT WORKSHOP

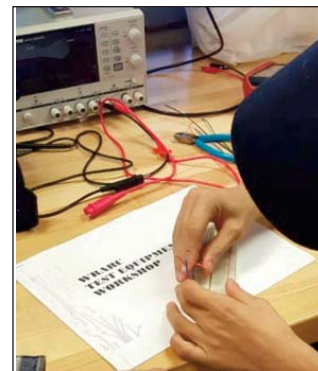
The workshop started about 9:00 A.M. in Lab #1 at ITT on Meridian Rd. in Austintown. KD8NZF was the main instructor. N8RCM and AB8AA were his assistants. All 'students' were given a packet, containing instructions; a black bag, to use, containing all the tools that would be needed for the workshop; black for the ground; orange for hot, just pretend they're red; blue and green wires; a bread board, and some resistors. Everyone built their own simple circuits to be used while learning to use the test equipment. Yes, there was smoke that indicated a few shorts.

Dave explained, the current of electricity is like the water flowing in the hose and the water pressure is the voltage of a circuit. The diameter of the hose is the determining factor for the resistance. Current refers to the movement of charges. In an electrical circuit – electrons move from the negative pole to the positive pole.

Dave also explained how to use an oscilloscope. Using a function generator to give a signal and then read that signal using the oscilloscope. He also explained how to read frequency and amplitude using the oscilloscope.

Those who attended : Nancy KD8QNY, Dave KD8NZF, Harry KD8PQK, Sam W8SDD, Joe W0JO, Roy KD8IJF, Al AB8AA, Jane K8JAA, Bob N8RCM, Chris WF8U, Amanda KC3GFU, Noah N3DZH, Stan KB3WPD, Ron KD8SEV, Mike KC8UNR, Maureen KD8NXS and Mark KD8YMK. Everyone agreed they had fun. They all learned how test equipment is used and a little about electrical circuits.

Join us for the next WRARC workshop on reading schematics bring held March 19 again at ITT. Contact Dave, Al, or Bob to take part. WRARC Thanks ITT for the use of their facility for our classes, testing, and workshops.



COULD THIS BE YOU?

Could this be YOU? This is the Wave Bender YOUR Newsletter. We have plenty of room for YOUR article(s)! If something is of interest to you, odds are that we all will enjoy your thoughts and activities! Have a favorite radio? Have some reminiscing to do? Maybe you have a question for one of our Elmers. OR, a Tip or Trick you learned that would help one of YOUR WRARC friends. You are warmly invited to contribute! Don't worry about writing or formality - we can help you with that. Your article could go in this spot next month!!



Where to go During a Communications Shutdown

<http://www.emergencymgmt.com/disaster/Where-to-go-During-a-Total-Communications-Shutdown.html>
pr@reflector.arrl.org

ARRL 2016 FIELD DAY PACKET NOW AVAILABLE, NEW BONUS POINT CATEGORIES ANNOUNCED

It's not too early to be thinking about Field Day 2016 and planning your club's strategy for a bigger score and greater participation than last year. Field Day is June 25-26 -- always the 4th full weekend in June -- and the 2016 ARRL Field Day Packet now is available to download as a PDF file. This year's Field Day introduces two new ways to score bonus points -- Social Media and Safety Officer.

Rule 7.3.16 Social Media offers 100 bonus points for promoting your Field Day activation to the general public via an active, recognized, and utilized social media platform, such as Facebook, Twitter, or Instagram. This bonus is available to bona fide Amateur Radio clubs and Field Day groups that welcome visitors to their operations. These bonus points are not available to individual participants, and club websites do not qualify as social media for this bonus. The bonus points are available to all Field Day entry classes meeting the criteria.

Rule 7.3.17 Safety Officer offers 100 bonus points by designating someone to serve as a Safety Officer for groups setting up Class A stations. This person must verify that all safety concerns on the Safety Check List - found in the ARRL Field Day Packet -- have been adequately met. This is an active bonus. Simply designating someone as Safety Officer does not automatically earn the bonus points. In order to claim this bonus, participants must include a statement verifying the completion of the Safety Check List in the supporting documentation sent to ARRL Headquarters.

Last year, 2720 stations submitted ARRL Field Day entries. Nearly 1.3 million contacts were logged during FD 2015 -- an increase of just over 1 percent. Nearly 35,400 individuals took part in Field Day last year.

The 2016 ARRL Field Day logo makes a connection to the League's year-long National Parks on the Air (NPOTA) operating event. NPOTA celebrates the centennial of the National Park Service (NPS).

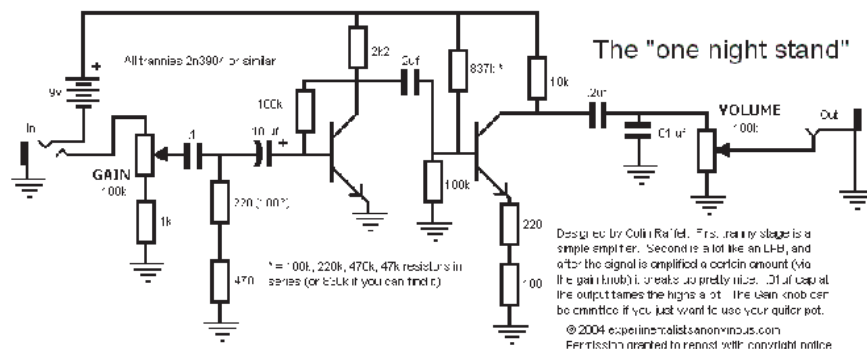
The design's featured hiking boot footprint anticipates that many 2016 Field Day groups and individual operators may want to combine FD and NPOTA, setting up at national parks, historic sites, or at any of the hundreds of official National Park Service units throughout the US. Pick your park, get the okay from park officials, get out and get on the air, and leave nothing but footprints!

Follow Field Day on Facebook and Twitter (hashtag #ARRLFD). Share your plans, tips, and tricks for a successful Field Day!



Go to the WRARC web page to read the 2016 Field Day Packet posted there.

SCHEMATICS WORKSHOP



Are you interested in learning how to read schematics? I'm sure you've seen them used to illustrate parts of your new radio. Here is the official definition From Wikipedia, the free encyclopedia:

A schematic, or schematic diagram, is a representation of the elements of a system using abstract, graphic symbols rather than realistic pictures. A schematic usually omits all details that are not relevant to the information the schematic is intended to convey, and may add unrealistic elements that aid comprehension. For example, a subway map intended for riders may represent a subway station with a dot; the dot doesn't resemble the actual station at all but gives the viewer information without unnecessary visual clutter. A schematic diagram of a chemical process uses symbols to represent the vessels, piping, valves, pumps, and other equipment of the system, emphasizing their interconnection paths and suppressing physical details. In an electronic circuit diagram, the layout of the symbols may not resemble the layout in the circuit. In the schematic diagram, the symbolic elements are arranged to be more easily interpreted by the viewer.

Now that you know the definition, you have the opportunity to learn how to read them. WRARC will be holding a workshop March 18, 9:30 A.M. at ITT on how to read them. Dave, KD8NZF the instructor; Bob, N8RCM, and Al, AB8AA will be the ELMERS for this workshop. Contact one of them and tell them you'll be there.

SWAP 'N SHOP



Kachina 505DSP In great shape, original DSP SDR radio,	\$400
Heathkit SA2060 Tuner, good condition	\$100

Kenwood TS-711A, 2 Mtr All Mode, In original box with mike and manual	\$300
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Kenwood TS-811A, 440 Mhz All Mode,	\$300
Kenwood SP430 Spkr,	\$ 40

Yaesu G-450A Rotator, Brand new,	\$100
Swan-250 6 Meter radio.	\$ 50

or make offer

Gwinstek Function Generator, \$ 25

Gwinstek Digital Multimeter.	\$ 25
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Albia Power Supply Dual Variable +15 &-15,	\$ 25
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EZ Oscilloscope 60MhZ Dual Channel.	\$ 50
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MFJ-4225, Switching PS, New,	\$ 85
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Mosley CL-33-M 10, 15, 20 MTR BEAM antenna,	\$200
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Nye Viking, MBI-001 Tuner,	\$100
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Vibroplex Bug.	\$ 50
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Misc tower parts, lots contact me if interested. Will accept reasonable offers.

Allan Avnet. AB8AA

E-Mail ab8aa@arrl.net

"www.ab8aa.com "

call or text 330-207-3296

WHY MODERN MAKERS ARE BRINGING BACK HAM RADIO

Wayne Rash, February 15, 2016

More than a hundred years ago, a few intrepid amateurs began experimenting with a new means of communications known then as “wireless.” These protohackers — soon to be known as hams — for etymologically obscure reasons — began building their own electronics gear, hoping to use it to communicate with others. By the early 1920s, amateur radio operators were talking with and even transmitting images to complete strangers on the other side of the world.

By the 1980s, ham radio was in decline. But the spirit of those early tinkerers survived: They were the first makers, who — like the makers of today — built technological gizmos for themselves that they just couldn’t buy.



And now, coincident with the rise of the modern maker movement, that decline has reversed. New ham licenses are on the increase, with 35,000 new ones issued just last year. According to FCC records, there are now roughly 800,000 ham radio operators in the United States — more than ever before. And this latest generation of enthusiasts is doing things with ham radio that their forebears could never have imagined.

DIY: Old and new

Some of today’s hams are in it for the original reason: to talk to people around the world via shortwave radio. But many get involved so they can incorporate wireless capabilities into their projects.

One reason is that an FCC license allows you to build and legally operate your own high-powered wireless equipment. Ham radio operators are allowed to design, build, test, and operate wireless projects across a vast range of frequencies. They are able to, among other things, hack together Wi-Fi routers that can operate over longer distances and use more power than standard, commercial Wi-Fi.

Adding amateur radio technology to their projects opens up whole new vistas for today’s DIYers. “It blows me away what can be done, and for cheap,” says maker-blogger Rich Holoch, who experiments with microcontrollers and projects based on Arduino and Raspberry Pi devices. “It opens up the whole matrix of what you can do.”

“It’s amazing all the things that are out there that you can do with ham radio,” concurs Christine Axsmith, president of HacDC Radio Club, part of HacDC, a Washington, D.C.-area maker group. “But with Raspberry Pi, it just blew the lid off.” HacDCers are working on projects that include microwave networking and remotely controlled 3D printing — all using wireless radio technology.

Dennis Kidder came to that ham-maker nexus from the other direction. A longtime ham radio operator, he was unprepared for what he found when he went to his first maker faire in San Mateo a few years ago.

“We were overwhelmed with the DIY electronics and the robotics,” he says. He was so energized by the experience that he helped write (with Jack Purdum) a book on the subject, *Arduino Projects for Amateur Radio*.

Putting ham radio to good use

One thing a lot of these maker-hams talk about is the potential use of their hobby for public service. “Our team is working on a project to turn any cellphone into a shortwave radio,” Axsmith says, explaining that once the work is done, it could be used to help provide communications in developing areas.

Other makers are contributing their skills to the American Radio Relay League’s (ARRL) National Parks on the Air event, in which ham radio operators try to raise awareness about national parks and the work done by the National Park Service. Others are developing new emergency communications networks as backups for when cell service disappears.

Continued page 16

MODERN MAKERS - CONTINUED FROM PAGE 15

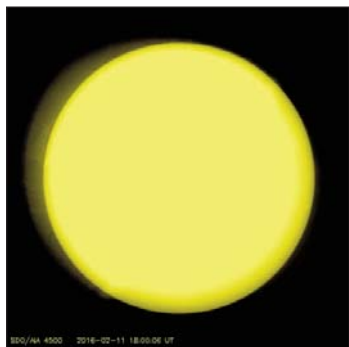
Some maker spaces now offer Ham radio activities. A few, like HacDC, have their own radio shacks and experimental equipment and offer ham radio license classes.

Meanwhile, ARRL is ramping up its efforts to spread the word about ham radio in the maker community. "We support a lot of ham radio operators who go to maker faires," says Bob Inderbitzen, ARRL's sales and marketing manager.

The combination of ham radio and the maker movement could even help the former shed its amateur status. Inderbitzen says familiarity with both could be a real plus when it comes to getting hired as an engineer. Hands-on experience with radio frequency engineering is extremely valuable these days but also hard to find. He says he's seeing "a significant boost in employment opportunities" for hams who know how to make stuff.

What You Can Do with Ham Radio
Becoming an Amateur Radio operator is just the beginning.
Many hams who enjoy the hobby often ask,
"How can I get more involved?"

Explore how you can get involved with Amateur Radio and how ARRL can help go to
<<http://www.arrl.org/get-involved>>



Observatory (SDO) photo:

SOLAR CYCLE 24 ACTIVITY CONTINUES TO BE LOWEST IN NEARLY 200 YEARS

Anthony Watts / February 11, 2016

It has been a couple of months since WUWT has checked in on the progress of solar cycle 24. Right now, the sun is in "cue ball" mode, with no large visible sunspots as seen below in the most recent Solar Dynamics

<http://wattsupwiththat.com/2016/02/11/solar-cycle-24-activity-continues-to-be-lowest-in-nearly-200-years/>

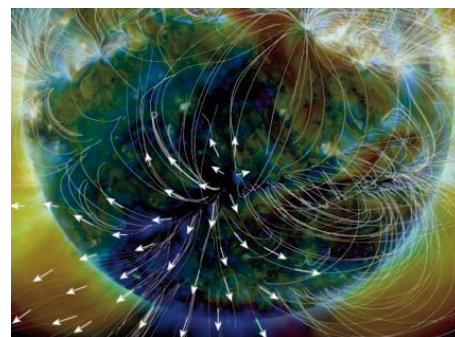
SPACE WEATHER NEWS

Feb. 16, 2016

<http://spaceweather.com/>

GEOMAGNETIC STORM IN PROGRESS: Earth is entering a stream of high-speed solar wind, and this is causing G1-class geomagnetic storms on Feb. 16th. This is not the CME we have been waiting for since Valentine's Day. Instead, the solar wind is flowing from a coronal hole on the sun Visit Spaceweather.com for photos and more information.

SPACE WEATHER BALLOON LAUNCH: To monitor the effect of the ongoing storm on radiation levels in the atmosphere, Spaceweather.com and the students of Earth to Sky Calculus will launch a helium balloon carrying cosmic ray sensors. Stay tuned for pictures and data from the flight, scheduled for liftoff just a few hours from now.



ARRL ANNOUNCES PARTNERSHIP WITH RFINDER -- THE WORLDWIDE REPEATER DIRECTORY

ARRL Announces Partnership with RFinder -- The Worldwide Repeater Directory
ARRL has established an agreement with RFinder, the creator of a web and app-based directory of Amateur Radio repeaters worldwide, for RFinder to be the League's preferred online resource of repeater frequencies. RFinder, the official on-line repeater directory of ARRL.



RFinder is a steadily growing worldwide repeater directory with over 50,000 repeater listings in over 170 countries. An annual \$9.99 subscription to RFinder provides access to repeater data through its collection of apps for Android and Apple devices, and from nearly any web browser. With one subscription, users have access to repeater data worldwide from computing devices on Windows, Mac, Linux, Android, Apple iOS, and popular GPS systems. A growing list of third-party memory programming applications support radio programming. RFinder provides integrated support for EchoLink on Android and iPhone, allowing users a one-click connection to repeaters worldwide from the directory.

"The RFinder team is honored to be ARRL's partner, providing the very latest online repeater information and directory technology for radio amateurs in the United States," said Bob Greenberg, W2CYK, creator of RFinder -- The Worldwide Repeater Directory. "We look forward to working with ARRL to make RFinder even better for US hams."

ARRL will receive a portion of each annual subscription to RFinder. US radio amateurs who subscribe to RFinder will have online access to its entire worldwide directory while supporting ARRL.

ARRL will discontinue its own products that had supported digital listings of repeater data, including the TravelPlus for Repeater™ software and its own apps. ARRL is working with RFinder on a plan to migrate existing ARRL app users to RFinder, in order to support remaining subscription terms. An RFinder screen shot.

"Rest assured that the printed ARRL Repeater Directory, updated and published each year, will continue to be produced," said ARRL Marketing Manager Bob Inderbitzen, NQ1R. Inderbitzen explained that the Repeater Directory, available in pocket-sized and spiral-bound desktop editions, is especially popular with new radio amateurs, mobile and portable operators, and public service volunteers who rely on the printed copies when they are offline and on the go.

ARRL's source of repeater data for The ARRL Repeater Directory is voluntarily contributed information from repeater owners and frequency coordinators in the US and Canada. RFinder, on the other hand, assembles its data from worldwide sources, including repeater owners, national and regional coordinating bodies, and carefully reviewed crowd-sourced contributions. RFinder uses dynamic data, allowing users to access listings that regularly reflect new, updated, revised, and deleted information.

RFinder will have an exhibit at the upcoming Orlando HamCation®, this year's ARRL National Convention, February 12-14, at the Central Florida Fair and Expo Park in Orlando, Florida. "We are excited and proud to announce our partnership during the ARRL National Convention!" Greenberg said.



ARRL is the most recent national Amateur Radio society to establish a partnership with RFinder. RFinder is the official repeater directory of Radio Amateurs Canada, the Radio Society of Great Britain, the Deutscher Amateur Radio Club (Germany), and others.

Subscribe to RFinder by visiting <http://subscribe.rfinder.net> from your iPhone, iPad, iPod Touch, or from your Android smartphone or tablet. Those without an Apple or Android device can subscribe using the link at the bottom of <http://subscribe.rfinder.net/>.

**There Are Four Seasons In Ohio: Almost Winter,
Winter, Still Winter, and Road Construction**

US HOUSE COSPONSOR LIST FOR AMATEUR RADIO PARITY ACT GROWS

The list of cosponsors for the US House version of the Amateur Radio Parity Act of 2015 (H.R. 1301) continues to grow. The addition of Rep Stevan Pearce, KG5KIQ (R-NM), and Rep Beto O'Rourke (D-TX) as cosponsors on February 1 raises the total to 120 from both sides of the aisle. Pearce and O'Rourke are among four cosponsors to sign on to the bill since the start of the year. The other two are Reps Robert Brady (D-PA) and Marcy Kaptur (D-OH), who became cosponsors on January 12 and 13, respectively.



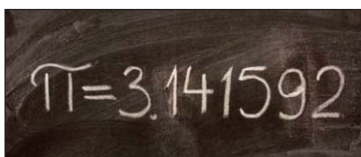
One of a small handful of hams in the US House, Pearce got his ham ticket in November, after reaching out to then-Rocky Mountain Division Director (now Second Vice President) Brian Milesosky, N5ZGT, and New Mexico Section Manager Ed James, KA8JMW, to find out more about ham radio. He joins his House colleagues Reps Daniel Benishek, KB8TOW (R-MI), and Greg Walden, W7EQI (R-OR), who chairs the House Subcommittee on Communications and Technology. During a January 12 hearing on H.R. 1301, Walden called the Amateur Radio Parity Act "a commonsense bill" and urged his colleagues to support it. Brady, Kaptur, Pearce, and O'Rourke may have heeded his advice.

A League-led effort to encourage members to urge their lawmakers to become cosponsors of the House and Senate measures continues. League representatives will be at the 2016 ARRL National Convention February 12-14 in Orlando, Florida, hosted by the Orlando HamCation, to assist members in writing their members of Congress.

H.R. 1301 would direct the FCC to extend its rules relating to reasonable accommodation of Amateur Service communications to private land-use restrictions, such as deed covenants, conditions, and restrictions. An identical US Senate measure, S. 1685, has attracted three cosponsors. It cleared the Senate Committee on Commerce, Science, and Transportation last November.

More information about the legislation is on the ARRL Amateur Radio Parity Act web page.

<<http://www.arrl.org/amateur-radio-parity-act>>



America will never be destroyed from the outside.
If we falter and lose our freedoms,
it will be because we destroyed ourselves.

Abraham Lincoln

PARF DAYTON BUS TRIP to DAYTON

We are pleased to announce that PARF, Pioneer Amateur Radio Fellowship, Inc., is once again chartering a bus to the Dayton Hamvention for Saturday, May 21, 2016 - 5:30 AM. On their website, <<http://w8wky.org/parf-daytonhamvention-bus-trip-info/>>

you will find all the details.

The cost of the Bus & Entrance ticket to the Hamvention: \$70* before April 15, 2016

Please note: April 15 is the deadline for the "Early Bird" discount, but don't wait. Last year we were at 92% capacity. Several folks who couldn't make it then indicated they would be riding this year! Seats are available on a first come, first serve basis.

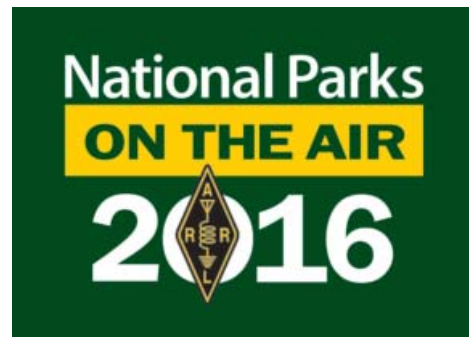
If you have any questions, don't hesitate to give me a call at 330-745-5115.

73, Joy Spencer-DeZordo, KA8TDF

EVENT TO MARK NATIONAL PARK SERVICE CENTENNIAL

“ARRL National Parks on the Air” - In 2016, the National Park Service (NPS) will celebrate its 100th anniversary, and radio amateurs will be able to help mark the occasion with the ARRL National Parks on the Air (NPOTA) event. The fun began at 0000 UTC on January 1, 2016.

“As ARRL just celebrated our own Centennial, and Amateur Radio is often enjoyed in the great outdoors, it seemed fitting to devise a program to help NPS celebrate their own 100th birthday,” said ARRL Media and Public Relations Manager Sean Kutzko, KX9X. As he explained, NPOTA will run throughout 2016, with activity promoted and encouraged from each of the more than 430 official NPS administrative units and affiliated areas across the US. This includes all 59 National Parks as well as National Battlefields, Historic Sites, Memorials, Preserves, Reserves, Rivers, Seashores, National Scenic Trails, and other units.



The 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. Chaser and Activator totals will be tracked via an online Leader Board based on LoTW data, just as was done during the Centennial QSO Party. (Access the NPOTA Leader Board directly at <http://npota.arrl.org>.)

Modeled after the Mixed DXCC award, 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). No paper logs or QSLs will be accepted for NPOTA credit. Each NPS unit will be added to LoTW as a “location.”

Three award certificates will be available: Chaser Award and Activator Award certificates will be available to any radio amateur who has at least one confirmed contact with an NPS unit or who activates at least one unit, respectively. A station’s total number of confirmed or activated units will be printed on the certificate. The National Parks Honor Roll certificate will be available for any station that confirms contact with at least 75 percent of the 59 National Parks activated in 2016.

An Activator can earn additional recognition as a “Five-Star Activator.” While the Centennial QSO Party was an internal event for radio amateurs, National Parks on the Air is designed to be a public promotion of Amateur Radio’s capabilities. Various public relations bonuses and activities will be available to Activators, similar to the PR bonus points available to ARRL Field Day stations.

The success of the event and of the awards program rests on radio amateurs’ willingness to operate from NPS units.

“Portable operators, this event is for you!” Kutzko said. “Start thinking about how you would incorporate Amateur Radio into your visit to an NPS unit. Whether you’re camping in Yosemite, driving along the Blue Ridge Parkway, or set up in a corner of Andersonville Prison, you will definitely draw a pileup. As long as you are on the property of the NPS unit, you will qualify as being in the unit.”

Kutzko notes that depending on the size of a given operation, participants may need to secure a special-use permit. “This may take some time,” he said. “It’s possible the answer will be ‘no.’ Be mindful of the size and sensitivity of the NPS unit you want to activate, and be realistic about your plans.” NPOTA Activators will need to follow all NPS rules in whatever unit they activate.

In general, the more portable and compact your station is, and the more creative and adaptable your plans are, the greater your chances of success. While there is no formal partnership between NPS and ARRL for this event, the League has been in discussions with the NPS over the past year, and it is aware that increased Amateur Radio activity in their parks is likely during 2016.

“It is your responsibility to be on your best behavior and not interfere with other visitors at NPS units,” Kutzko advised. “Remember, every time you visit an NPS unit for this awards program, your conduct will

Continued page 20

NPOTA - CONTINUED FROM PAGE 19

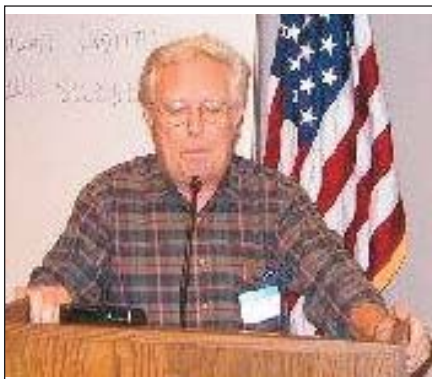
not only impact the reputation of Amateur Radio throughout the NPS system, but will also directly impact the success of the next amateur who tries to activate that unit. Be nice, be courteous, and be flexible. Demonstrate Amateur Radio in the best light possible."

The NPOTA will use the official list of NPS Administrative Units and Affiliated Areas as defined and maintained by NPS. Complete details on the National Parks on the Air event are available on the ARRL website.

Throughout 2016, Amateur Radio will be helping the National Park Service celebrate their 100th anniversary. Hams from across the country will activate NPS units, promote the National Park Service and showcase Amateur Radio to the public.

N4TL, has assembled a checklist of NPOTA codes <<http://www.arrl.org/npota>> (PDF) to assist in the National Parks on the Air (NPOTA) operating event that is running all year.

STATE GOVERNMENT LIAISON - K8NAP



Amateur Radio in the Legislature Nick Pittner, K8NAP Government Liaison It's 2016, already; a year that will most likely continue to present challenges for amateur radio. So, let's take a few moments to review what some of those challenges are, and what can be done about them.

First, the Amateur Radio Parity Act, federal legislation to require accommodation for amateur radio antennas in areas limited by contract rather than zoning ordinances. The League has done a masterful job of getting this very essential legislation in the legislative hopper with lots of support. But, there is opposition and, beyond that, the inherent difficulty of getting anything through congress in an election year makes the task enormous.

The ultimate outcome of this legislation may well define the very future of our hobby as more and more living areas fall subject to deed restrictions, condominium regulations and neighborhood agreements. Without antennas most of us have no opportunity to enjoy amateur radio unless we have access to a remote station. At the same time, the loss of amateur radio would deprive the nation of one of its most valuable emergency communications resources, not to mention the benefits that flow from the experimentation and development of new theories and designs by hams. Recently, the League sent a mass email asking hams to reach out to a select group of congressmen to voice support for the Bill. Here's your chance to help: please do it. <https://arrl.rallycongress.net/ctas/urge-congress-to-support-amateur-radio-parity-act>.

Second, expect a continued challenge to mobile communications. Every legislative session produces a few bills designed to prohibit "distracted driving" resulting from mobile communications by those driving automobiles. And, while amateur radio is seldom the target of these bills, or even specifically mentioned, the definitions are often broad enough to include amateur radio communications within the scope of prohibited conduct.

The League has issued 2 formal position statements, one in 2009 and one in 2014. Both argue strongly that mobile amateur radio communications should not be prohibited in any way. Yet, the increase of "hands free" cell phone technology, which appears to reduce the potential for distraction, could well force hams to find ways to apply the same sort of technology to mobile communications. In any event, be on the lookout for continuing legislative attention to this issue in the coming year.

Third, Ohio's antenna law, which is still "new" legislation, has produced benefit for those hams who have used it properly. However, there is still little by way of judicial precedent from cases considering appeals by hams denied zoning permits. Precedent is important because the first court decisions to interpret a new law set the pattern for those to follow. At this stage, it is critical that we prevail in as many court cases as possible in order to create favorable precedent for those to follow. It's important to choose the battleground carefully. We continue in the effort to organize Ohio's lawyer/hams to make additional resources available to those who could use them.



DAYTON HAMVENTION 2016

Hamvention “Fully Committed” to Hold 2016 Show at Hara Arena, General Chairman Says 10/04/2015 - Dayton Hamvention® General Chairman Jim Tiderman, N8IDS, is downplaying talk arising from an October 2 television news report and a more extensive and detailed October 3 Dayton Daily News article, that Hamvention might move from Hara Arena as early as next year. Tiderman characterized the reports “all speculation and rumor.”



“In light of the Cox Media (Channel 7) television interview and the ensuing Dayton Daily News article, I, as General Chairman of the 2015-2016 Dayton Hamvention, want to assure all interested parties that the Dayton Hamvention is fully committed to the 2016 Dayton Hamvention at Hara Arena and Exposition Center, Tiderman stressed in a statement. “We still keep an open mind to alternate plans, in case they become necessary. All successful businesses need to do that, and Hamvention is no different in that respect.” The Dayton Amateur Radio Association (DARA) sponsors Hamvention.

The media reports said Dayton area officials have been working together to keep Hamvention in the Dayton area, if not at Hara Arena in Trotwood, where it has been held since 1964. Dayton TV station WHIO reported on October 2 that the Dayton/Montgomery County Convention and Visitors Bureau has been in discussion with the City of Dayton on a plan to ensure that the world’s largest Amateur Radio gathering at least remains in Montgomery County, should Hamvention have to find another venue because of Hara Arena’s financial problems. According to Bureau President and CEO Jacquelyn Powell, this isn’t the first year that officials have considered “Plan B options,” the WHIO and Dayton Daily News reports indicated.

According to the media reports, representatives of the City of Dayton, Montgomery County, Dayton Convention Center, and the Convention and Visitors Bureau will meet this month to review options for Hamvention organizers in the event a move from Hara Arena becomes necessary. Various alternative venues in the Dayton area are reported to have been considered, including the Dayton Convention Center and the Dayton Airport Expo Center, and the Dayton Daily News report said Tiderman has toured both facilities. Also raised was the possibility of holding the indoor exposition and the outdoor flea market at separate locations in the area, and ferrying visitors back and forth with shuttle buses.

The Dayton Daily News account said word of Hamvention’s possible move from Hara Arena stemmed from a July e-mail from Karen Wampler, director of Marketing for Hara Arena, which the newspaper obtained through a public records request. The Wampler family owns the 165,000 square foot, six-building complex.

“We have shared the fate of the Trotwood/VenuWorks/Hara acquisition proposal with the [Hamvention] Chairperson and select board members of Hamvention,” Wampler wrote in the e-mail, according to the newspaper report. “While we have kept them informed throughout the process, they are reeling. They have much to lose with Hara’s closing and, like us, believed we were close to stabilizing Hara for future growth, rather than ending her nearly 60-year run.”

Since last year, the Wampler family has been working with VenuWorks, which specializes in restoring event venues, to rejuvenate the deteriorating facility. Karen Wampler acknowledged last winter that Hara was facing financial challenges, flagging revenues, and competition from other Dayton area venues and was exploring “a new ownership model.” By the time Hamvention 2015 took place last May, “Sneak Peak” posters in Hara Arena were advertising “Renovations in 2016” and portraying conceptual sketches of what a refurbished Hara might look like.

The newspaper account said that VenuWorks had recommended that the City of Trotwood purchase Hara Arena, but the Trotwood officials turned down the idea. That plan was focus of Wampler’s July e-mail, the Dayton Daily News article said. Wampler subsequently told the newspaper that Hara Arena is in better condition than it was when she drafted her July e-mail and that the event complex will not close anytime soon.

Hamvention puts millions of dollars into the local economy each year. Last May, the show attracted some 25,000 visitors. Dayton Hamvention 2016 will take place May 20, 21, and 22.

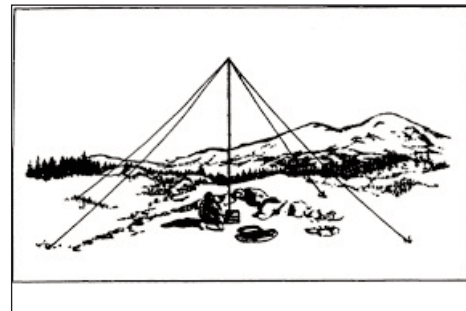
Tiderman told the Dayton Daily News that “something catastrophic” would have to happen to cause Hamvention to move from Hara Arena.



Ohio NVIS Antenna Day

Monday Morning Message (Vol 3, #6) February 8th, 2016

April 23, 2016 - Working with antennas has been an integral part of the Amateur Radio hobby since the first hams went to the airwaves. Having the 'right' antenna becomes even more important when we're acting in the interest of public safety! The Amateur Radio Emergency Service (ARES) organization in Ohio will put these two concepts together in another "NVIS Antenna Day" activity April 23, 2016.



Last year, numerous operators, teams, and EOC's participated to find the best NVIS antenna to use across the Ohio Section. The differences weren't as dramatic as one might expect; those fashioned after the military AS-2259 cross-dipole configuration appeared to be the best but other designs worked nearly as well.

This is not really a contest- there is no score. The purpose is to have teams (counties, groups within counties, friends, even individuals) research and determine the NVIS antenna designs they think will work the best- then actually get together to build and try them!

Starting at 10AM Saturday, April 23 teams begin making contacts to compare their antennas. They do not have to be at portable locations, but there should be room for several antennas. This year, we're offering the concept of "anchor" stations around the state which will be in place to provide consistent signal reports to all who contact them. For example, Team A puts together a low-altitude G5RV. They contact Anchor A in Toledo, Anchor B in Dayton, and the Ohio EOC station ("The Sarge") for signal reports. They then either adjust their design, or try antenna number 2 contacting the same anchors. From their signal reports, they can determine right away which antenna is better and by how much! We don't have an "end time" set- because some stations had so much fun (and so many pile-ups) that they went on for quite a while past dark.

Our anchor stations' frequencies will be published, but stations can contact as many other stations as they can find for more fun. Like our VHF contest, this will allow stations to plot their coverage "footprint" to get a good idea of their capabilities for a real emergency.

After the contest, all teams file reports with their call and location, operators, number of contacts and most important, all antenna details- antenna design, height, specific comments, and pictures. Each station then can rank its top (3) antenna performers with comments and ideas. Pictures are very much encouraged! Our Marion County ARES team is sponsoring the event this year. They will compile the documentation, and narrow down the best performing antennas across the region – antennas we might all want to put in our 'go bags' as proven performers.

In something like a grid-down situation, our emergency communicating would not be limited within the boundaries of Ohio, so I'm asking our neighboring states to get involved with us! We would really like to make this a regional event with stations in their state EOC's and around the Ohio border to test their own capabilities.

We're hoping to make this a regional event in 2016!

Monday Morning Message - Subscription Info:

The Monday Morning Message is delivered to your e-mail box each Sunday Evening around 0000 GMT(Monday Morning GMT) If you like what you see, or have suggestions for things I can add, let me know.

If you would like to be added to the distribution list, Email John Myers, KD8MQ <kd8mq1@gmail.com>

A very interesting piece of history that we had forgotten about.
<http://www.whitehousemuseum.org/special/renovation-1948.htm>

43 THINGS YOU PROBABLY DIDN'T KNOW ABOUT OHIO

Ohio Facts They Never Taught You In School. Without the Buckeye State we 'd have no airplanes, cash registers or 23-foot-long drumsticks.

1. Fifty percent of the United States population lives within a 500-mile radius of Columbus , Ohio .
2. Neil Armstrong, the first man to walk on the moon, was from Wapakoneta , Ohio .
3. It is illegal to fish for whales on a Sunday in Ohio ... not that there 's any place to do that. Well, at least you can fish for them every other day of the week.
4. Thomas A. Edison, the inventor of the incandescent light bulb, the phonograph, and the early motion picture camera, was from Milan .
5. Akron was the first city to use police cars.
6. Ohio has the largest Amish population of any state in the nation.
7. John Lambert of Ohio City made America 's first automobile in 1891.
8. The first full-time automobile service station opened in 1899 in Ohio .
9. Oberlin College , founded in 1833, was the first interracial and coeducational college in the United States .
10. Seven United States presidents were born in Ohio : Ulysses S. Grant, Rutherford B. Hayes, James A. Garfield, Benjamin Harrison, William McKinley, William H. Taft, and Warren G. Harding. Must be something in the water.
11. There is an alley dedicated to drummer Dave Grohl [Nirvana & Foo Fighters] in his hometown of Warren , Ohio .
12. The largest drum sticks in the world are in David Grohl Alley, each measuring 23 feet long and weighing a half-ton.
13. The Pro Football Hall of Fame is located in Canton .
14. Women are prohibited from wearing patent leather shoes in public in Ohio . The reasoning? So that men can 't see reflections of the women 's underwear in their shoes.
15. Life Savers candy was invented by Clarence Crane of Garrettsville , Ohio in 1912. They were touted as a "summer candy" since they didn 't melt like chocolate.
16. Some well-known personalities were born in Ohio . Among them are Steven Spielberg, Paul Newman, Annie Oakley, Arsenio Hall and Clark Gable.
17. It is illegal for more than five women to live in one house in Ohio .
18. The world 's largest horseshoe crab is more than 55 feet long, and lives in Blanchester.
19. Ohio 's state flag is not a rectangle like other flags—it's a pennant design, and it's the only state flag in the United States with that design.
20. By state law, no one may be arrested on a Sunday or on the Fourth of July in Ohio , which is definitely not enforced.
21. Roy J. Plunkett of New Carlisle, Ohio invented Teflon in 1938.
22. You can take tours of a house made entirely of trash, affectionately referred to as "House of Trash " in Philo.
23. There 's a mysterious rolling sphere in the Marion Cemetery . The 5,200-pound sphere of granite has been revolving on its base since it was placed there in the late 1800's."Ripley 's Believe It or Not" featured it in 1929. It 's still moving at an average of two inches per year.

Continued page 24

43 FACTS ABOUT OHIO - CONTINUED FROM PAGE 23

24. The first airplane was invented by Dayton natives the Wright Brothers.
25. The Great Serpent Mound, the largest serpent effigy in the world at a half mile long, is on a plateau overlooking Brush Creek Valley in Adams County .
26. There is a shrine called the "Temple of Tolerance" in Wapakoneta, that looks like it should be somewhere sacred, but it 's in Jim Bowsher 's backyard. He 's the temple master and gives free tours every day.
27. The very first mechanical cash register was invented in Dayton .
28. The first concrete street in America , which is still in use today, was poured in 1891 near the Logan County Courthouse in Bellefontaine.
29. If a restaurant wants to serve horse meat in Ohio , they must display a sign that says, "Horse Meat Served Here." Thank goodness for that.
30. There is a double Futuro House, aka UFO House, in Carlisle .
31. The first capital city of Ohio wasn 't Columbus —it was Chillicothe , which is now part of the Greater Columbus Metropolitan Area.
32. In 1879, Cleveland became the first city to be lighted by electricity.
33. Akron is the rubber capital of the world.
34. It is unlawful to leave chewing gum in public places in Cleveland .
35. "Hang On Sloopy" is the official state rock song.
36. Ohio is the leading producer of greenhouse and nursery plants.
37. For many years the patrons of Maid-Rite Sandwich Shop in Greenville have been sticking their gum outside the walls. Three of the building 's four walls are covered in gum, creating the infamous "Wall of Gum" .
38. The Glacial Grooves on the north side of Kelleys Island are the largest and most easily accessible great ice sheet grooves in the world. They were created 18,000 years ago by the great ice sheet that covered part of North America .
39. Dresden is the home of the world's largest basket. It is located at Basket Village USA .
40. There is an "Unofficial Lego Museum" in Bellaire and it has some of the coolest lego creations known to man.
41. In Dublin there's a public art installation called 'Field of Corn (with Osage Orange Trees)'. By the locals it's called 'Cornhenge' and features 109 ears of concrete corn that stand eight feet tall. It's a tribute and celebration of Sam Frantz, who invented hybrid corn species.
42. There is a permanent "Things Swallowed" display at the Allen County Museum in Lima that featured things that have been swallowed and retrieved by doctors, including buttons, thumbtacks, bones, coins, dentures and other things swallowed.
43. Ohio holds the record for the world's largest basket, the Longaberger Company headquarters building in Newark. It's seven stories high and 180,000 square feet.

MORSE CODE AND DNA

Last week I pulled out a newspaper article I had saved that announced the official end of Morse code after 155 years...at least for the government and commercial uses.

It got me thinking about Samuel Morse and what it was that made me and thousands of other radio operators become enamored with his code...and why it is still a big part of ham radio today.

For me, one of the first toys I received for Christmas 1956 was a plastic Morse code key and sounder. I played with it until the batteries went dead but I was able to send my last name in code...ROSS...at a pretty good clip. Little did I know then that my name had all three of the most important Morse code letters...SOS!

Fast forward ahead about 60 years and I'm learning now that my Great Grandfather was one of the first telegraph operators who was trained to work for the railroad! He worked at stations in the small Ohio towns of Malta and Union Furnace. Where he received his training is still a grey area. With the help of the Wayne County Library and Historical Society, I'm researching an old Telegraphers School that was operated in Wooster, Ohio. Across the county in the early 1800's there were actual schools, colleges of their day, which taught Morse code. The Morse code courses also came with a side course on penmanship. Apparently decoding was not good enough if no one could read what the operator was writing down!!

All of this tells us just how important Morse code was then. It was the fastest growing technology of the day and has lasted for 172 years. We can only hope the internet has the same longevity.

While we can pass down hair and eye color to our future generations is it possible to pass down some Morse code DNA? Funny question I know, but what causes kids like us to be interested in technology at an early age? Why do we find amateur radio so important, exciting and gratifying? If we dig deep enough I'll bet we might be surprised at the answer.

73, John Ross, KD8IDJ
THE PUBLIC INFORMATION COORDINATOR
john.ross3@worldnet.att.net

Magic

This is incredible. Let me know how he does it.

<http://www.youtube.com/watch_popup?v=sKns1uatyNg&vq=medium>

FOUNDATION FOR AMATEUR RADIO INVITES SCHOLARSHIP APPLICATIONS

The Foundation for Amateur Radio (FAR) is accepting applications from Amateur Radio operators for scholarships for the 2014-2015 school year. The application deadline is April 15. Some scholarships give preference to radio amateurs from California, Delaware, Florida, Maryland, Ohio, Pennsylvania, Texas, Virginia, and Wisconsin.

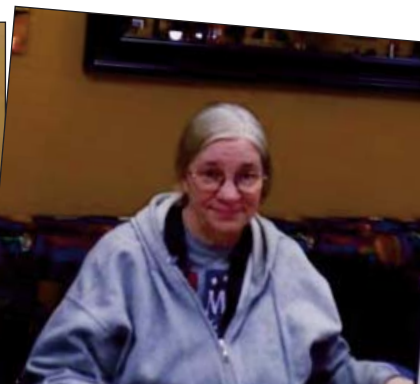
FAR, a non-profit, all-volunteer organization, manages 52 scholarships worth a total of \$72,100. There are no age restrictions for any of the scholarships, and applicants do not have to attend a four-year institution. All applicants must be full-time students.

Availability of these scholarship awards may offer an incentive to students considering getting a license or already studying for the test to take the leap before April 15.

FAR's scholarship program is one of the largest for Amateur Radio licensees in the US. The organization's purpose is to further Amateur Radio in all of its various facets. FAR sponsors training, seminars, and other events in support of Amateur Radio. — Dave Prestel, W8AJR, Chairman FAR Scholarship Committee. Contact FAR for more information. <<http://www.farweb.org/contact>>

— Dave Prestel, W8AJR, Chairman FAR Scholarship Committee



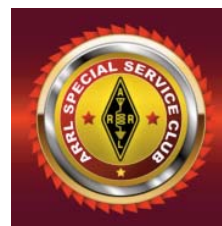


New member
Greg Jackson, K2GRG



March 2016

PREPAREDNESS LEADS TO READINESS - MATT W8DEC



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2 Skywarn Net 8:30 P.M. 146.745	3	4 WRARC Net 9:00PM 145.270 Swap n' Shop Ask the Elmers	5
6	7	8 Eat'n Park Boardman 8:30 A.M. Board Meeting Eat'n Park Austintown 7:00 P.M.	9 National Proofreading Day	10	11 WRARC Net 9:00PM 145.270 Swap n' Shop Ask the Elmers	12
13 Daylight Saving Time Begins 	14 ARES Net 8:30 PM 146.745 PL 110.9 & Pi Day	15 WRARC Meeting 7:00 P.M. 	16	17 	18 WRARC Net 9:00PM 145.270 Swap n' Shop Ask the Elmers	19 Schematics Workshop 9:30 A.M. @ ITT
20 WRARC Anniversary Net & Spl Event Station! 	21	22 Ham Breakfast Eat'n Park Boardman Skywarn Training Lisbon 	23	24  WaveBender Articles Due	25 WRARC Net 9:00PM 145.270 Swap n' Shop Ask the Elmers	26
27 	28 ARES Net 8:30 PM 146.745 PL 110.9	29	30 Skywarn Training Austintown 	31	WRARC Net 9:00PM 145.270 Swap n' Shop Ask the Elmers	