



The Wave Bender

November 2016



WRARC PREZ SEZ

November is approaching, much to fast in my opinion. I have held office as your President for almost a full year now, and for the most part it has been a very enjoyable experience. This is not to say there have not been some ups and downs in this time, but that is to be expected.

Our membership has been increasing, our relationship with the public is doing well and we have been adding functions to our busy fall schedule. This year we have added the Youngstown Peace Race to our calendar. By the time you are reading these words it also will be in the past and we will all be looking forward to Thanksgiving.

There is one major goal I came into my first year with that up to this point I am not happy with, and need your suggestions and help with in obtaining, before my term as your President is up.

We are a Ham Radio Club, and as such as I have said before, we are expected to perform some public service activities. We do several, from out twice yearly road cleanup on Rt. 446, to the various runs, walks, and public events we are involved in. I do realize that some members are unable to participate in all of these functions, and that is perfectly understandable. The goal that I mentioned at the start now becomes important, we have several younger members, and as with any group they are the lifeblood of WRARC. These younger members are the leaders of the future to borrow a famous line. We also have many middle-aged members with a wealth of knowledge to share.

Now I finally reach the GOAL. I want to see these two groups working together to advance the goals of WRARC, and the way we need to do that is by somehow, (and here is where I need every bodies help), getting these two groups working together. We have over 50 members in WRARC, but we see the same faces at the walks and runs, the public appearances that we do at parks etc. and the road cleanups.

The GOAL I have is to increase participation in all WRARC sponsored events.

If you have any suggestions, ideas, or anything that you wish to say, I am willing to listen. I will present ideas to the Board, and work together with the membership to make WRARC one of the most active and well represented Amateur Radio Clubs in the Mahoning Valley.

We need our members active in all the activities WRARC does, first as a public service, and secondly to keep our skills honed and at top form, and finally to pass those skills on to the younger members of our group, and even the younger members of our community. To further not only the longevity of WRARC, but the very existence of the radio service, many of you have heard as I have, Amateur Radio is a dying art? We need to do our share to let people know Amateur Radio operators are alive and well.

73 Bob, N8RCM
President, WRARC



2016 Officers:

President: Bob Mitzel, N8RCM n8rcm@wrarc.net
VP: Joe Wojtowicz W0JO w0jo@wrarc.net
Secretary: Jo Wilms, KD8SNW kd8snw@wrarc.net
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
 Maureen Stein, KD8NXS kd8nxs@wrarc.net

Publicity: Joe Wojtowicz, W0JO w0jo@wrarc.net

Nets: Steve Fabry, KC8SOY kc8soy@wrarc.net

Nominating Charman
 Classes/Testing: Al Avnet ab8aa@wrarc.net

Newsletter/Web: Jane Avnet K8JAA k8jaa@wrarc.net

Historian: Terri Mitzel, N1TAM n1tam@wrarc.net

Badges: Al Avnet, AB8AA ab8aa@wrarc.net

Facebook: Terri Mitzel, N1TAM n1tam@wrarc.net

Chris Monske, WF8U wf8u@wrarc.net

Harry Harker, KD8PQK kd8pqk@wrarc.net

Officer's Meeting:

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

Members Meeting:

November 15, Davidsons
 3636 Canfield Rd., Cornersburgh

Speaker: Bridget Langley
 from Mercy Health

:

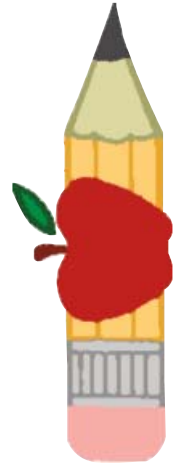


<http://www.wrarc.net/>

General Class starting

**November 9
 Testing -
 December 21.
 7:00 P.M
 5234 Southern Blvd**

**Contact Al, AB8AA
 ab8aa@wrarc.net**



OTHER IMPORTANT WEB SITES

For the ARRL searchable Hamfest calendar,
 <<http://www.arrl.org/hamfests-and-conventions-calendar>>

The ARRL exam search page
 <<http://www.arrl.org/find-an-amateur-radio-license-exam-session>>

Ohio Single Sideband Net
 <<http://www.ossbn.org/index.html>>

FROM OUR VP

Thank you to all our members who helped at the Youngstown Peace Race. The weather was great and, outside of some minor glitches, the event went well. The event organizers have already asked me if we'd consider participating again next year.



The Youngstown Peace Race will be our last public service event for the year (not including the Haunted Halloween Hayride) and it's hard to believe another year is rapidly coming to a close.

I'd also like to thank Tim Duffy, K3LR, Chief Operating Officer at DX Engineering, for filling in for their sales manager last minute, as our guest speaker for our last club meeting. It was greatly appreciated. Tim informed me that DX Engineering has, for lack of a better term, "Club Saturdays" throughout the year where they host a get-together of various amateur radio clubs at DX Engineering on Saturdays throughout the year. They offer coffee and doughnuts and let those who attend to look at and even tryout new ham radio gear. We will discuss this at our next Board meeting and try to coordinate with DX Engineering a Saturday sometime next spring for our club.

Tim also told us about a great video on www.QRZ.com which highlights a quad-copter drone with a HD video camera previewing, from above, the new site of the annual Hamvention, which is the Greene County Fairgrounds near Xenia, Ohio. If you haven't seen it yet, just go to the website and it's right there on the front page. Looks like a fabulous new place for the event since the old location, Hara Arena, is no longer.

Finally, our next monthly club meeting will be held on Tuesday, November 15 at Davidson's Restaurant, 3636 Canfield Road, Canfield, OH 44406. Dinner is at 6:00pm EST and we start our meeting at 7:00pm EST. Our scheduled guest speaker will be Bridget Langley from Mercy Health. Also, mark your calendars for our December meeting, December 20. You do not want to miss this as our scheduled guest will provide live "sounds of the season" like you've never heard before and it should be both a fun and informative time. This is all I can say for now, but try to make our December meeting if you can. We invite all of our members to the meeting and any other licensed amateur radio operators, or those who want to learn more about the hobby/service and our club, to the meeting.

73, Joe, W0JO
VP/WRARC



ELECTIONS THIS MONTH

We will be electing one Trustee this month. We have three members running For this office, Harry, KD8PQK, Stan, KB3WPD, and Roy, KD8IJF. To run for a position on the Board, you must have been a member for at least one year. It's not too late to run for Trustee, as nominations are open up until the time we cast our ballots.

This year is also the year we elect a President of our Country. Whomtever your choice, please VOTE in this years' National election. Remember, everyone who doesn't vote, it's like casting a vote for the party who gets the most votes.



WHAT'S COMING UP?

- Nov. 05 YL Breakfast 9:00 A.M. Bob Evans, Boardman
- Nov. 08 Eat'n Park Boardman 8:30 A.M.
Ham Community Breakfast
- Nov. 08 Board meeting - 7:00P.M., Eat'n PARK, Austintown
- Nov. 11 Veterans Day
- Nov. 15 Members Meeting & Elections at Davidsons
- Nov. 22 Eat'n Park Boardman 8:30 A.M.
Ham Community Breakfast
- Nov. 24 Thanksgiving
- Dec. 21 Winter Solstice
- Dec. 25 Christmas



2017

January 2017 After the Holidays Annual Dinner/Meeting & Installation of Officers - DTBD

DUES ARE DUE, PAYABLE ON OR BEFORE JANUARY 31, 2017

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



WALK TO END ALZHEIMER'S



Executive Director of the Walk to End Alzheimer's contacted Joe, W0JO, to cancel our participation in this year's event. The problem was ongoing road construction on and around the campus of Youngstown State University. The campus police told her that they didn't think our participation this year would be wise due to parking and altered traffic patterns. She apologized to WRARC and welcomed us to participate next year.

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



Avnet, Allan AB8AA	Antennas, radio setup, mobile, grounding, classes, anything	ab8aa@arrl.net
Beatty, Dave KC8WY	anything	kc8wy@zoominternet.net
Fabry, Steve KC8SOY	Yaesu FT8900, FT8800, Mobile	kc8soy@yahoo.com
Haren, Roy KD8IJF	???	harens@juno.com
Williams, Russ NR8W	Electrician, tele-data, Amateur Extra	rwilliams@neo.rr.com
Wojtowicz, Joe W0JO	ICOM radios, D-Star	w0jo@arrl.net

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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 on the 20th each 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.
 KD8DWV - 145.270, PL -110.9
 Upcoming Net Control Operators**

**11/04 Brian, AB8BL
 11/11 Frank, KD8YZE
 11/18 Dave, KC8WY
 11/25 Rose, KD8TII**

Volunteers needed for Dec.

**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)
 ARES thanks 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**

**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; N8DMC, KE8EYE, KC8SOY, N8SY, KB6MYR, W5YI, the ARRL and the World-Wide Web.

YL OCTOBER BREAKFAST

Something new has been started with our WRARC for the month of October. At the September board meeting, Terri Mitzel, N1TAM suggested starting a Ladies Breakfast get-together for all the YLs and any lady interested in Amateur Radio. At the meeting, I suggested we start the first Saturday of each month beginning in October which was, coincidentally, October 1 at 9AM.



A few suggestions were thrown around as to where we could meet for the breakfast. They were, Bob Evans in Boardman, Eat n Park in Boardman, Eat n Park in Austintown and Perkins Pancake House in Boardman. We decided on Bob Evans in Boardman for our first month. To our amazement, it was a big success.

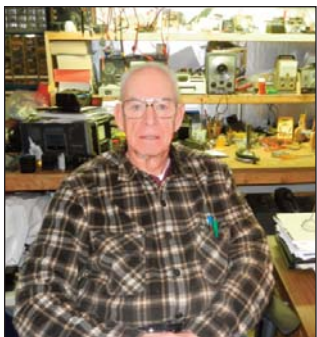
The ladies who came were, Terri, N1TAM, Maureen, KD8NXS; Sherri Mulne; Liz, KD8DWV; Jane, K8JAA; Donna Haren; Debbi, KE8EYE; Shirley, KD8SSB and myself. It was an enjoyable morning. Terri brought some door prizes for entertainment which was a very nice touch. It was a way to begin our Monthly breakfasts on a pleasurable note and we plan on doing it for the next few months. We look forward to having more ladies attend this fun event. Our next outing will be November 5 at 9AM at Bob Evans in Boardman.

After we establish ourselves at Bob Evans, we will change the venue and try a new place. We are always open to new suggestions other than the four mentioned above. Ladies, if you feel you would like to join us for a friendly Saturday morning breakfast, you can reach me through my email address: kd8tii@zoominternet.net.

73 Rose, KD8TII

**Did you hear about the cross-eyed teacher who lost her job?
She couldn't control her pupils.**

I HAVE A QUESTION



Why are you not helping WRARC? I know we have a large number of new Hams in WRARC. You may not know what is expected of all Hams. We are expected to be available to help with Public Service Communications, and with all Emergency situations. Working events is good practice for when you have to step up for some real emergency.

The Amateur Radio Service is the correct name for us. It is a hobby and a Service to the country and the community. Without being called a Service, we would not have the bandwidth we have.

We have 56 registered members in WRARC. Why when we ask for help to do an event, only a few members are willing to step up and help. We are becoming a social club not a radio club. We have a large number of Extra Licensed Hams. Why did you get the Extra license if you are not going to use it? We have several Elmer's that are willing to help the members get on the air. Be it antenna set up, shack set up, how to use their radio, how to make contacts, or almost everything else. All you have to do is ask. Everyone has been a new Ham at one time. The Elmer they had helped them get started.

There are a few of us that are doing everything for WRARC. We need to have the other members step up and help out. If you sign up for something and cannot make it, contact the person setting it up as soon as you know you will not be there.

The newsletter editor would like input from any member that has something that is interesting to share. If you have any comments or questions, please feel free to contact me.

73 AB8AA
ab8aa@wrarc.net

GET INVOLVED MEMBERS!

I strongly encourage each and every one of you to get more involved in YOUR club. Without your participation in our events we worked so hard to get, we might as well become a social club that meets monthly at Davidson’s Restaurant and talk about how nice our new flat screen televisions have the most crisp picture, how nice our garden was this year etc. I DON’T want to see that happen!

I enjoy going out and helping our community using my favorite hobby to help others, AMATEUR RADIO. I work a lot of crazy hours lately, but I sacrifice one day each month from my earned vacation time so that I could attend “every” officer’s meeting to ensure we have the BEST Amateur Radio Club in the area by suggesting or supporting ways we can make our club successful.



It makes me very upset that we struggle to recruit our members to participate in club events, such as our most recent Boardman Park Haunted Hayride that was held the last three weekends in October (Friday & Saturday from 6:30pm till 10:30pm usually). You could come out and spend whatever time you have available, whether it is sitting out in the woods protecting volunteers from intruders, or remaining in your car with a good viewpoint on those awaiting to board a wagon to go onto the trail, making sure there aren’t any medical issues etc.

There is also a decline in Friday night nets from what I’m hearing. I’m unfortunately unable to check into our Friday night nets due to my work schedule lately and I’m sure others have similar circumstances. Monthly meetings at Davidson’s isn’t meant to get together and eat and see how many members we can get to join our every so growing membership. My point in all of this is do not allow our club to go stagnant and become a social club. As I said in the beginning, GET INVOLVED PLEASE ! Jane Avnet, K8JAA works VERY HARD to put our planned events in our monthly newsletter and club web page, so use these valuable resources to see where you can get involved with. I hope each and every one of you take this to heart.

73 to all N8DMC – Darrin Cannon
 WRARC Trustee
 (330)720-4454
 Darrincan@gmail.com



Hamspeak - Interesting site

<https://www.qrz.com/page/hamspeak.html#Numbers>



BIRTHDAYS THIS MONTH

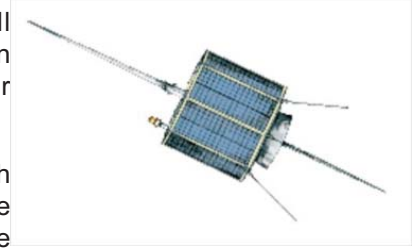
- | | |
|---------------|----------------------|
| KB8UCZ | Joan Twaddle |
| KD8SNW | Jo Wilms |
| KD8YML | Michael Stein |
| KD8NZF | David Brett |
| KD8IJE | Ted Filmer |
| KD8TII | Rose Marko |



I stayed up all night to see where the sun went, and then it dawned on me.

AO-7 STILL GOING STRONG AFTER ALMOST 42 YEARS IN SPACE

In a little more than a month, the venerable AO-7 Amateur Radio satellite will mark 42 years in space. AMSAT says AO-7, the oldest ham radio satellite still in operation, is now switching between Mode A and Mode B on a daily basis, after coming up in Mode A on September 30.



"That suggests that the satellite is now in constant sunlight and receiving enough power from the solar cells for the 24-hour timer to stay on throughout its entire orbit," AMSAT-NA Secretary Paul Stoetzer, N8HM, said. "Expect daily mode switches between Mode A and Mode B to occur for the next 3 months or so. As AO-7's orbit precesses and the periods of constant sunlight become fewer and fewer, there will be less of an opportunity to use Mode A on a yearly basis, so enjoy it while it lasts!"

In Mode A, earthbound amateurs transmit on 2 meters and receive on 10 meters. Stoetzer said the type of 10-meter antenna isn't fussy. "Try whatever you can," he said. When continuously illuminated, AO-7's mode will alternate between Modes A and B (70 centimeters up/2 meters down) every 24 hours.

November 15 will mark 42 years since AO-7 was launched into space from Vandenberg Air Force Base in California. AO-7 was the second so-called "Phase 2" Amateur Radio satellite that AMSAT-NA constructed and launched into low-Earth orbit. It remained in operation until a short circuit occurred in a battery in 1981. More than 20 years later, however, AO-7 unexpectedly returned to life, its 2-meter beacon showing up on 145.9775 MHz. Satellite experts speculate that AO-7's resurrection occurred when the short circuit in the battery opened up for some reason, allowing the solar cells to power the spacecraft. When the satellite goes into eclipse, it powers down.

Last February Dave Swanson, KG5CCI, of Arkansas achieved a distance milestone on AO-7 using Mode B to work Eduardo Erlemann, PY2RN (GG66lw), in Brazil -- a path of 8030.895 kilometers. -- Thanks to AMSAT-NA, AMSAT News Service

http://www.amsat.org/?page_id=1031



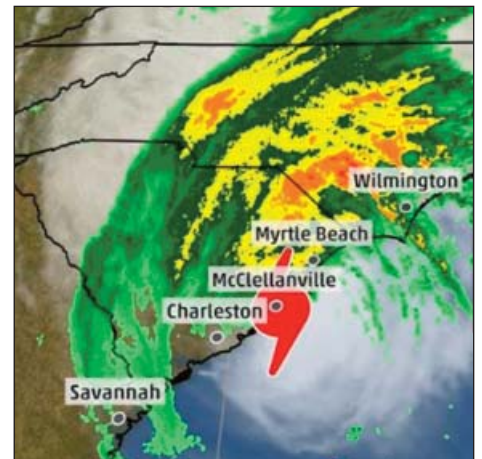
IN THE MIDST OF HURRICANE MATTHEW, COUPLE TURNS TO AMATEUR RADIO FOR AID

Monday, Oct 10, 2016 – The National Guard, a Firefighter and a Ham Radio Operator helped rescue the stranded couple.

WILMINGTON NC -- Amateur Radio and quick communication late Saturday helped emergency officials rescue a pair of people who were stranded on Trails End Road.

The man and woman had gone to check on their boat at the local Yacht Club and Marina, when a tree and live power line fell across the road, stranding them.

They called a friend who was a Ham Radio Operator who, in turn, contacted an Amateur Radio Emergency Services volunteer who was stationed at the County's Emergency Operations Center. The volunteer kicked into action, walking over to the County Sheriff's Office representative stationed there. At that point, all emergency vehicles in the County Sheriff's rescue squads were parked because of the high winds.



The officials spoke with a National Guard team also stationed at the center, who headed to Trails End in a Humvee. A firefighter joined the team and used a hot stick, a pole firefighters carry, to lift the live wire, allowing the vehicle to drive under the downed wires, pick the people up, and drive back out.

Ham Radio Operators are stationed with emergency officials in case the cell phone network or other forms of communication fail. This is an example of good inter-department communication.

PR reflector

WHY IS ELECTION DAY SO LATE THIS YEAR?

Why Is Election Day So Late This Year? The Reason For 2016's Date Goes All The Way Back To 1845. There are a lot of reasons why the 2016 election cycle has been excruciating, but one of the main factors is that it seemingly has lasted forever: While the end is finally nigh, Election Day isn't until Nov. 8. But... why? Why is Election Day so late this year? The universe must be having a heck of a laugh over this, because honestly, it seems kind of like a cruel joke.



It's a common misconception that Election Day in America is the first Tuesday of November. This is because the rule, a result of a law passed by Congress in 1845, states that Election Day is the Tuesday following the first Monday in November. A lot of the time, that means that it is, in fact, on the first Tuesday in November. But about 14 percent of the time, this rule also causes Election Day to fall during the second week of November. 2016 — in which Nov. 1 occurs on a Tuesday — falls into that 14 percent. In fact, because Nov. 1 is a Tuesday, Election Day actually falls on the latest date possible this year, as TIME notes. Because of course.

Prior to 1845, the law stated that each state was allowed to conduct their own presidential elections at any point during the last 34 days before the first Wednesday in December, according to Time and Date. That first Wednesday marked the meeting of the Electoral Colleges. November and early December were considered ideal because the harvest was finished, but the worst of winter, which hindered communication and transportation, was yet to come.

But 34 days is, uh, an extremely long election period, even though the only people voting were white dudes. So in 1845, one year into James K. Polk's presidency, Congress decided that Election Day would be confined to one day: Early November, post-harvest and pre-winter, and the Tuesday following the first Monday, which gave more rural voters a full of travel after the Sabbath.

The one-day Election Day rule came into effect in 1848, which saw the election of President Zachary Taylor. Voter turnout was 72.7 percent, down from 1844's 78.9. Now, again, white Christian dudes were participating amidst voting conditions written specifically for white Christian dudes — but to put that voter turnout in perspective, 2012's presidential election saw about 58 percent participation among eligible voters.

Y'all — that is unacceptable. Truly. Just! Please! Vote! Even if these rules are old and meant for religious farmers! I don't care! Vote!

Hopefully you've already registered at this point, so assuming you've done that, here's how to figure out where you should go cast your ballot on Nov. 8. Seriously, you guys. Way too much is riding on this one.

**We hang the petty thieves
 and appoint the great ones to public office.**
 ~Aesop~

VINTAGE TECHNOLOGY DOCUMENTARY

How It's Made: Quartz Used in Military Radio Communication -

Published on Sep 9, 2016 - The receiver crystal known under the names of crystal radio, station diode and pyrite in position is extremely simple amplitude modulation radio receiver that historically from the early twentieth century enabled the reception of radio waves of the first band radios, signals from the Eiffel tower and the first broadcasting stations. The crystal radio equipped the stations of wireless ships, stations of wireless and airships wireless stations aircraft, mobile stations. He also allowed thousands of fans to learn about electronics and played a major role in disseminating messages during World War 1 and during the Second World War.



<https://www.youtube.com/watch?v=ly23Us3nrX8>

YOUNGSTOWN PEACE RACE

Members and friends of WRARC who volunteered and came out Sunday, October 23 for the Youngstown Peace Race, met 8:30 A.M. at Fellows Riverside Gardens. We went over our assigned locations and other event details. The 10K race, the race we were working, was scheduled to start at 10. Net Control, NC, came up at 9:30 for roll call to check how well each station could reach Net Control. A couple stations were noisy, but after moving a few feet, all stations were readable. The race started on time and ran until about noon. Someone said there were 1500 walkers and runners. There were no problems with the participants, which is a good thing. Park Police picked up the stragglers at the end of the race. NR8W spotted a buck running past his station - not sure if it finished the race or not. Net Control Operator for the event was K8JAA. Donna Haren was the scribe. KC8SOY covered both the starting line at Kirkmere Elementary School, and the finish line which was downtown Youngstown at the square.



After the race was over, all volunteers met back at NC for a group picture, and decide where to have lunch. Thanks to all who volunteered and came out to support the walkers and runners: KE8ENM, KD8TII, KD8IJF, Donna Haren, N8DMC, KB3WPD, KD8EYE, W8LTB, N8RCM, N1TAM, NR8W, AB8AA, K8JAA, AB8OP, KC8WY, W0JO, KD8SNV, KD8SNW, KD8SDZ, KC8SOY.



AMATEUR RADIO VOLUNTEERS MUSTERED IN RESPONSE TO HURRICANE MATTHEW

After the longest activation in its more than 50-year history, the Hurricane Watch Net (HWN) secured operations for Hurricane Matthew on October 9 at 0400 UTC. HWN Manager Bobby Graves, KB5HAV, reported that the net was in continuous operation for 6 days, 7 hours, gathering real-time ground-truth weather data as the storm passed through the Caribbean and up along the US Eastern Seaboard, and passing the data along to WX4NHC at the National Hurricane Center (NHC). Various Amateur Radio Emergency Service (ARES) nets also activated along the East Coast. The first major hurricane of the 2016 Atlantic hurricane season and, at one point, a Category 5 storm, Matthew was downgraded to a post-tropical cyclone as it headed out into the Atlantic.

"Many have perished in Haiti and Cuba as a result of Matthew, and the death-toll rises still," Graves noted. "Many residents in the Bahamas and the US East Coast states of Florida, Georgia, South Carolina, and North Carolina felt the impact of Matthew as well." More than 30 died in the US. FEMA reports that power remained out for thousands of Florida, Georgia, South Carolina, and North Carolina residents as of October 13. Cell service also was affected.



The VoIP SKYWARN/Hurricane Net (VoIPWX) attracted a number of visitors, according to net managers. "On board Saturday afternoon, in addition to WX4NHC at the National Hurricane Center, stations representing a number of FEMA regional offices and the National Response Coordination Center monitored the net for actionable intelligence to be used to plan recovery operations," said net Public Affairs Officer Lloyd Colston, KC5FM. The net also activated on October 3.

The net said its Georgia Reflector was linked to the WX-Talk conference, so net managers could help to relay reports to local National Weather Service offices on NWSchat and the NHC.

According to Chief of Operations Dennis Dura, K2DCD, the net established a link up the East Coast into North Carolina and continued to monitor for damage assessment in areas the hurricane had already passed. The net supported the NHC on the WX-Talk Conference, Node #7203 on EchoLink.



The Salvation Army Team Emergency Network (SATERN) on 14.265 MHz also was active for Matthew, handling outbound emergency, priority, or health-and-welfare traffic from hurricane-affected areas.

Among activities in Georgia, ARES District Emergency Coordinator and MARS member Tom Holcomb, K5AES, reported that WX4GMA, the Georgia Emergency Management Agency ARES team station, was activated on October 7, running 12-hour shifts. Operation was on HF as well as on D-STAR and EchoLink.

HF message traffic included shelter updates from coastal counties and periodic NHC weather updates via WX4NHC, which were passed along to the GEMA director. Coastal county-related traffic and weather updates also were handled via D-STAR. WinLink was used to pass periodic status updates from the Georgia State Defense Force, a volunteer component of the Georgia Department of Defense. The EchoLink Georgia Conference node provided updates on storm-related conditions. On October 6, ARES and Army MARS personnel were called on to provide technical assistance to, and an operator for, a FEMA SHARES station in Atlanta.

Among activities in South Carolina, ARES volunteers staffed evacuation shelters, with radio amateurs coming from outside the affected areas to help. "Overall, I believe the radio operators that were available for the event did an outstanding job and I am proud to know them," said South Carolina Section Emergency Coordinator Joe Markey, AJ4QM.



According to FEMA on October 13, mainstream river flooding threatened the Carolinas, and some dams were breached. Several hospitals remained closed.

The Hurricane Watch Net activated again for several hours on October 13 for Hurricane Nicole, after a hurricane warning went into effect for Bermuda. The NHC at one point called Hurricane Nicole an "extremely dangerous" Category 4 storm, with maximum sustained winds of 125 MPH. The VoIP Hurricane *Continued page 12*

RESPONSE TO HURRICANE MATTHEW - CONTINUED FROM PAGE 11

Net (VoIPWX) also activated to monitor online weather stations and storm bloggers from the Caribbean Hurricane Network (stormCARIB), as well as social media.

"While we do hope this is the last hurricane for this season, let us not forget we are still in Hurricane Season," the HWN's Graves said. The Atlantic Hurricane Season ends on November 1.



CURRENT RULES HOLDING HAMS BACK



Current Rules Holding Hams Back from Adopting State-of-the-Art Technology, ARRL Says In comments filed on October 12 with the FCC, ARRL reiterated its case that the FCC should impose a 2.8 kHz limit on symbol rate for digital modes, arguing that its approach is both balanced and necessary. ARRL had asked the FCC to change the Part 97 rules to delete the symbol rate limits in Section 97.307(f) and replace them with a maximum bandwidth for data emissions of 2.8 kHz on amateur frequencies below 29.7 MHz. In a July Notice of Proposed Rule Making (NPRM) in WT Docket 16-239, the FCC proposed to eliminate the current baud rate limitations for data emissions, consistent with ARRL's Petition, but it declined to propose a bandwidth limitation for data

emissions in the MF and HF bands to replace the baud rate limitations.

ARRL told the FCC in its comments that the current HF symbol rate "speed limit" reflects 1980s technology and has no place in an experimental radio service in which modern protocols could be efficiently deployed in crowded RTTY/data subbands.

"The symbol rate limit was created in order to maximize the efficient use and reuse of that crowded, shared spectrum, but the assumptions made at the time are no longer valid," ARRL said, "and the rules now prohibit radio amateurs from utilizing state-of-the-art technology, thus precluding or substantially inhibiting any meaningful contribution to the advancement of the radio art in this area." ARRL said earlier assumptions are no longer valid mainly because there is no correlation between the data rate and the occupied bandwidth in the rules now.

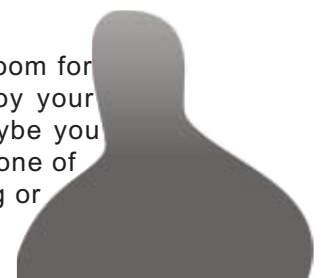
The League said present rules in the HF data subbands promote inefficiency, allowing data transmissions of unlimited bandwidth as long as the symbol rate is sufficiently low, and it stressed that there must be some limit on occupied bandwidth for HF data emissions.

"Eliminating the symbol rate limitations for data emissions and substituting a maximum authorized bandwidth would permit the utilization of all HF data transmission protocols presently legal in the Amateur Radio Service, as well as state-of-the-art protocols that fall within the authorized bandwidth," the League said. The deadline to file reply comments in the proceeding -- i.e. comments on comments already filed -- is November 10. Read more <http://www.arrl.org/news/current-rules-holding-hams-back-from-adopting-state-of-the-art-technology-arri-says>



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!!



MORSE CODE INFLUENCES ON HAM RADIO LINGO

I wrote this paper for my linguistics class. Since I did most of my research through the Internet, I thought I should post my paper back to the Internet. I also posted the paper in .pdf form here:

<<https://lrobison.wordpress.com/2007/03/26/morse-code-influences-on-ham-radio-lingo/>>

Morse Code Influences on Ham Radio Lingo - Morse Code Influences on Ham Radio Jargon - The origins of much of today's ham radio jargon traces back to early codewords and usages of Morse Code. Codewords are short sequences that are sent by encoding each character of the word in Morse Code, and tapping out that Morse on the radio, just as you would send any other word. To understand the jargon used by Amateur Radio operators, one must first consider the origins of radio communication. Samuel Morse introduced Morse Code and the telegraph in the 1840's and 1850's, and his invention spread rapidly through the states, especially along railroad lines. In 1896 Marconi was the first person to send Morse Code by radio waves, and Amateur Radio was born. By 1912 radiotelegraph had grown enough that Congress begun to regulate the frequencies available to amateur and private stations.

These stations all used Morse until voice transmission was made possible in 1920, although Morse was still in common use through the 1950's... The first Morse transmitters would effectively transmit on all frequencies, so all stations in range of each other were forced to be quick and concise as to not interfere with each other. This combined with the heavy traffic in harbors led to the adoption of the Q-codes in 1913 a set of 3 character code-words beginning with

the character Q. These codes would be transmitted as a replacement for their longer meanings, and would often have both question and answer forms. Originally only QRA-QRZ and QSA-QSZ were used because S- and R-codes had already been established. In the Q-code system, QSO is defined as "can you communicate with . . . direct or by relay? I can communicate with . . . direct (or by relay through . . .)".

Almost all Q-codes are defined in a similar way, and would be used as in the following example. Station A sends "QSO? WB5UMD" to station B, asking B if it can reach the station with call letters WB5UMD. Station B replies with "QSO WB5UMD," indicating that it can reach that station. Even though Q-codes were designed for use in continuous wave mode (also known as CW mode, the mode for sending Morse Code), several of the Q-codes are still around today on the phone modes (the mode a radio must be in to send and receive voices), and are very common in Ham manuals. In an interesting trend, the most common use of Q-codes in manuals and books is to convert the phrase to a noun. Thus QSO roughly means a conversation or contact, and an "eyeball QSO" is a face to face meeting without radios. Similarly, QRM was defined by "Is my transmission being interfered with? Your transmission is being interfered with," but The Radio Amateur's Handbook of 1973 uses the noun form to mean interference when instructing the amateur to avoid hogging the airwaves: "keep it short, so as not to clutter up the air with unnecessary QRM." As with QSO, QRM has been applied to non-radio circumstances. As early as 1929, Macon Fry reports that a Ham complained "I couldn't get on the air last night; nursery QRM (interference). My brat had a cough." The ARRL handbook also tells Hams to be careful not to interrupt others by saying "listen on the frequency first; don't plop on a QSO in progress." Other examples of a noun forms of a Q-code include QSL cards, which are used to acknowledge a QSO, QTH which means location, and QRP for low power operations.

CQ is possibly the most used code on the Amateur Radio frequencies today. CQ means "calling all stations" or a CQ call can have more specific information appended to indicate who the call is for. For example, "CQ WB5UMD" is a call for station WB5UMD to respond, and "CQ VK" is a call for anyone from Australia to respond (Australia's callsign prefix is "VK"). CQ was introduced to the airwaves by English telegraphers, who had used it on their landlines. CQ is derived from the first two syllables of the French sécurité, meaning "safety" or "pay attention." It was made into the first distress call by appending a 'D' to mean "calling all stations, I am in distress." In 1912 the international radio convention in London adopted CQ as "attention." A common activity of Ham radio operators is to see how far their radios can reach by calling distant stations. This is usually accomplished by sending a series of "CQ DX" transmissions, and is known as DX-ing, from the term DX, meaning distance.

Even though London had adopted QRD as a distress call, it was far from standardized across all communications. The earliest distress call was QRR, and was closely tied to Railroad telegraph lines, but the ARRL changed the call to QRRR to avoid confusion with the international QRR code (meaning *Continued page 14*

MORSE CODE - CONTINUED FROM PAGE 13

“please wait”). On the high seas, shipping companies discouraged their operators from communicating with operators from competing companies. This, combined with the large number of distress codewords made emergency communication difficult or hard to recognize among the frequently busy radio chatter. The 1906 conference heard proposals for a standard distress code, and finally selected the code commonly used in Germany: SOE, but changed it to SOS because the E (a single {·}) could be easily lost in transmission. The result was the {· · · - - - · · ·} code that is recognized as SOS today. But adoption didn't become standard until after the sinking of the R.M.S. Titanic in 1912. It is worth noting that {{· · · - - - · · ·}} does not stand for Save Our Ship, and in the 1912 report on the international radiotelegraph convention, the letters “SOS” are not even mentioned, only the {{· · · - - - · · ·}} symbol.

One of the earliest codes set in place to increase communication efficiency was the “92 Code” set in place by the Western Union Company in 1859 for use on land-line telegraphs. This code was a list of numbers between 1 and 92 that could be substituted for common phrases. Many of the phrases were for traffic control on the line, but a few of the numbers were just common phrases that would be wasteful to transmit at full length. Of these codes, 3 numbers are of particular interest. The number 73 represented the message “best regards,” and because the Q-codes had no equivalent, 73 remained popular among Hams transmitting on their wireless rigs.

The 73 code was so prevalent that even after voice modes were the most common transmission mode, Hams would frequently end their transmission by saying “73,” and still do so now. Most of the other 92-codes have fallen out of usage, so low power operators (QRPers) will occasionally end a conversation with “72,” saying that they don't quite have enough power for a full 73. The meaning of 73 has changed over time as it has been adopted by the Ham community as traditional and an identifying term. Earliest references to 73 list it as meaning “accept my compliments” in the flowery style of speech common in the 1850's, but this was later shortened to “compliments” in a manual published in the late 1890's, and by 1908 most sources translate 73 to mean “best regards”. As Morse Code usage was replaced by voice and digital communication, 73 gained an overtone of camaraderie among Hams and specifically Hams communicating via CW.

From the 92-Code also comes “30”, which meant “No more (end).” In classic American Morse Code, this was sent as {· · · - ·} = “3” followed by a long {-} = “0”. This is probably of the origin of the modern “SK” code for “end of transmission.” The code “SK” is transmitted in Morse as {· · ·} = “S” {- · ·} = “K”, and is functionally equivalent to a “30” transmission if the “0” is shortened to a regular {-}. Similarly, Ham operators typically replace “and” with “es” when transmitting and copying (writing down) messages. This originates from the American Morse usage of the ampersand character ‘&’, which was sent as {· · ·}. The International Code did not have a character for ‘&’, and so operators opted to send “es”. The two codes look almost identical when written, but when transmitted, the {·} of the ‘e’ and the {· ·} of the ‘s’ have a “short gap” between them, rather than the “long intra-character gap” used between the {·} and {· ·} in the code for ‘&’. The “es” for “and” replacement is only used in text: either CW, writing, Internet posts, or any of the new digital text transmission methods.

Another text-only carry-over from Morse is laughing. Hams will sometimes represent laughing or amusement by sending “hi hi” on CW modes, which is used similar to the Internet term “lol.” The “hi hi” phrase is onomatopoeic, and sounds similar to a series of short quick laughs when sent as Morse Code. Sending {· · · · ·} means “hi” but sounds like “heeheeheehee heehee”. It is not typically used in voice modes, but is not uncommon online and in other written forms.

The term “Ham” for “Amateur Radio operator” has a rather mysterious origin. It seems to have come into usage around 1900-1910. Many radio operators have heard a few urban legends about the origin of the term, but the most likely origin, as confirmed by the ARRL website, is that “Ham” originally was used to indicate a poor telegraph operator. In the early days of radio telegraphy, spark-gap transmitters forced everyone to share the same channel. The first radio telegraph operators came from the landline telegraph stations, and were familiar with the term “Ham,” so when amateur operators would talk to each other, all other stations would have to compete with their signals. The old operators would complain about these new amateurs jamming their transmissions by complaining about “those Hams,” as an insult. But just as Yankee Doodle was adopted by Americans, the insult “Ham” was adopted by amateur operators, and it has since completely lost its original, insulting meaning, except in the phrase “Ham fisted”. The “fist” of an operator describes how he sends his Morse. A Ham is considered to have a good fist if his timing is even, and his tones are clear.

Continued page 15

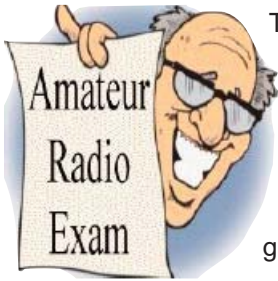
MORSE CODE - CONTINUED FROM PAGE 14

The origin of fist comes from some of the very, very early spark transmitters, which would shower the operator in sparks. To protect themselves, the lever used to send the Morse was lengthened and pounded with a closed fist. This is also the origin of the phrase "Pounding the Brass," which is used to describe any Morse Code sending.

The codes and jargon of Ham radio operators have changed significantly since conception a century ago. The oldest of these, the 92-codes have all but disappeared, but the Q-codes are still used by Amateur Radio enthusiasts, and by the marine and aviation industries. Morse Code is more of an amusement now, and all international distress stations listen for either voice or even newer digital signals. But despite all the new technologies of the communication age, the influences of Morse Code can still be observed today, and it is still a last resort for NASA and military systems.



OCTOBER TEST SESSION



Testing was held Wednesday, October 27. There were two people testing for their Technician License. Both took the Tech. Class that had just finished. Edward Freel, KE8FHU, and John, Ricci, KE8FHV, passed the Tech. Test and are planning on taking the General class being offered starting November 9.

Al, AB8AA, contact VE for the session, With the help of Terri, N1TAM; Bob, N8RCM; Roy, KD8IJF; Dave, KC8WY, and Jane, K8JAA. Thanks to all who came out to help, and congratulations to our newest Hams.



TO ALL RADIO AMATEURS

ARLB039 Rule Making Petition to FCC Calls for Vanity Call Sign Rule Changes - The FCC is inviting comments on a Petition for Rule Making (RM-11775) from a Nevada radio amateur that seeks changes to the rules governing the Amateur Radio Vanity Call Sign Program. Christopher LaRue, W4ADL, of North Las Vegas, is proposing that any licensee obtaining a vanity call sign be required to keep it for the full license term. LaRue contends in his petition that excessive and frequent vanity call sign filings are hampering the ability of other qualified licensees to obtain vanity call signs in one of the more desirable 1 x 2 or 2 x 1 formats. LaRue said that since the FCC dropped the fee to file for a vanity call sign, some applicants are taking advantage by regularly obtaining new call signs, thereby keeping them out of circulation. The petition can be found on the web in PDF format at, <https://ecfsapi.fcc.gov/file/1004220986407/Petition%20.pdf> .

"Some are changing call signs almost monthly, just to keep the newer code-free Extra class operators from obtaining a shorter call sign," he said in his petition. "I even saw an older operator that said he does it all the time and has not even owned a radio in over 6 years. When I looked him up, he has had 16 different [call signs] in 18 months."

LaRue said his proposed minor rule change would require any licensee applying for and obtaining an Amateur Radio vanity call sign "be required to keep it for the duration of the license, which is currently 10 years."

He said this would "alleviate a lot of the stress on the ULS system and manpower requirements" at the FCC. "It will also keep inactive amateurs from changing call signs regularly, thereby tying up call signs for 2 years after dismissal of said call."

Interested parties may comment using the FCC Electronic Comment Filing System (ECFS) at, <https://www.fcc.gov/ecfs/> . Comments are due within 30 days of the October 26 posting date.

THIS OLD COMMODORE 64 IS STILL BEING USED TO RUN AN AUTO SHOP IN POLAND

We need to learn a lesson about needless consumerism from this auto repair shop in Gdansk, Poland. Because it still uses a Commodore 64 to run its operations. Yes, the same Commodore 64 released 34 years ago that clocked in a 1 MHz and had 64 kilobytes of RAM. It came out in 1982, was discontinued in 1994, but it's still used to run a company in 2016. That's awesome.

To be sure, small businesses around the world often use technology that's a bit more outdated than what the rest of us use in our daily lives but darn, flexing a Commodore 64 for work in a time when babies are given smart phones before pacifiers is pretty bad.

Here's what COMMODORE USA'S FACEBOOK PAGE wrote regarding the computer: This C64C used by a small auto repair shop for balancing driveshafts has been working non-stop for over 25 years! And despite surviving a flood it is still going...

I know where I'm going if my car ever breaks down in Poland. So someone posted this comment about it:

Reminds me of something my mom did a few weeks ago. She got a scam call from some guy saying he was with Microsoft and he detected a virus on her computer. (First clue it was a scam? They have an iMac. Why would Microsoft be calling?)

My mom started playing dumb and saying, "You mean my Commodore has a virus?"

"What?"

"Yes! I have a Commodore 64!"

"Uh..Do you have Windows?"

"Well, of course! I can look through them and see the birds outside! My cats LOVE my windows...But I don't let them up by my computer after someone told me that computers have mice."

"Uhm...Ma'am...Is there someone else there?"

"Nope! Just me, my 12 cats, and my 4 dogs!"

The guy hung up on her at that point. :)

Driving Blonde - 710

A few days ago I was having some work done at my local garage. A blonde came in and asked for a seven-hundred-ten.

We all looked at each other and another customer asked, 'What is a seven-hundred- ten?'

She replied, 'You know, the little piece in the middle of the engine, I have lost it and need a new one..'

She replied that she did not know exactly what it was, but this piece had always been there.

The mechanic gave her a piece of paper and a pen and asked her to draw what the piece looked like.

She drew a circle and in the middle of it wrote 710. He then took her over to a car just like hers which had its hood up and asked 'is there a 710 on this car?'

She pointed and said, 'Of course, its right there.' the mechanic fainted

If you're not sure what a 710 is . . .





November 2016

PREPAREDNESS LEADS TO READINESS - MATT W8DEC



Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 YL Breakfast 9:00A.M. Boardman Bob Evans	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 ARES Net 8:30 PM 146.745 PL 110.9	8 U.S. General Election Day 	9 Ham Breakfast Eat'n Park Boardman 8:30 A.M. Board Meeting Eat'n Park Auatintown 7:00 P.M.	10	11 	12 WRARC Net 9:00PM 145.270 Swap n' Shop Ask the Elmers
13	14	15 WRARC Meeting 7:00 P.M	16	17	18 WRARC Net 9:00PM 145.270 Swap n' Shop Ask the Elmers	19
20  WaveBender Articles Due	21 ARES Net 8:30 PM 146.745 PL 110.9	22 Eat'n Park Boardman 8:30 A.M. Ham Community Breakfast	23	24 Thanksgiving 	25 WRARC Net 9:00PM 145.270 Swap n' Shop Ask the Elmers	26
27	28	29	30		WRARC Net 9:00PM 145.270 Swap n' Shop Ask the Elmers	