



Danielle Edgington, KE8JNU, and 5 other operators 7-14 years old participated in the XWARN-DARA Field Day, June 22-23, 2019.

Wavelengths

Xenia Weather Amateur Radio Net XWARN (W8XRN)

July 2019

147.1650+ (123.0) (Analog Only)
443.1000+ (123.0) (Analog + System Fusion)

Meetings: 2nd Monday, 7:30PM, Greene Memorial Hospital
(1141 N Monroe Dr, Xenia, OH) Herman Menapace Auditorium

President's Message

Happy July!

Field Day went really well! I had the best time since I've been a Ham. Thanks to all that came out – the setup crew, the master chef, the great youth contingency, the relentless operators, and the teardown crew. Who wants to give Winter Field Day a try?

The next big event is the Young's overnight. Consider coming out and giving it a try. It's a good time...and good ice cream!

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New DMR Repeater in Greene County!

A new DMR repeater, N8NQH/R, is up and operational in Sugarcreek Township. The repeater is part of the Brandmeister Network and covers Greene County and parts of Montgomery County. The hardware includes a Momentum (Harris) HDR100 Repeater (a rebranded Hytera RD982U) and operates at 444.8750 +5 MHz offset with Color Code 13. The Local N8NQH/R Talk Group is 310557 and there is a Cin-Day Cluster on Talk Group 2 (both on Timeslot 2). Talk Group 310557 should be used for all local contacts. Please use Repeater Timeslot 1 for all other Talk Groups. Be sure to join us for the Greene County DMR Net every Tuesday at 8:30 pm on Talk Group 310557.

You can learn more about the N8NQH/R repeater and DMR in general at <http://www.tim-yvonne.com/ham/dmr>, including a very useful Toolz page filled with great information and tutorials.

John Westerkamp, W8LRJ

Club Contacts

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- Newsletter, Jason Bowman, WG8B
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There was another tower fall fatality last month. Leland Parsons, N3LPJ, was killed on June 14 during a tower installation project when a tower section he was working on collapsed in Pennsylvania. It was said that Parsons was attempting to attach a guy wire to the bottom tower section when it went over. Please everyone, follow proper safety protocol and stay safe while working on towers.

I will see you all at this month's meeting, July 8th.

73,

Elizabeth, KE8FMJ



17th Young's Ice Cream Charity Bike Tour



It's time again to seek volunteers for the [Young's Dairy Charity Bike Tour](http://bit.ly/2XlnOor) (<http://bit.ly/2XlnOor>) that will be on Saturday, July 20th and Sunday, July 21st. The two day tour covers several Ohio counties, comprising up to 100 miles, so a large number of ham radio operators will be needed. The tour starts at 8:00 AM on Saturday from Young's Dairy, which is on Highway 68, north of Yellow Springs, and extends north to Ada Ohio. There is a bike path route for a portion of the return trip on day 2. We are not responsible for tracking riders on the bike path, but we may cover a few key intersections.

For any operators wanting to stay overnight in the dorm rooms at Ohio Northern University in Ada, where the riders stay, I WILL NEED TO KNOW THAT ASAP. For those not familiar with that option, I

highly recommend it. The dorms are extremely nice and the organizers graciously provide them to at no cost to us. However, the organizers do have to pay for the rooms, and this is a charity event, so donations to offset the cost of the rooms are appreciated if you can manage it. Dinner and breakfast are included if you stay overnight, and these guys have an absolute blast up there. It's really a great and entertaining time.

We are in need of very many operators for this event. Please consider coming out, if only for a portion of the day.

Please contact Mike Crawford, kc8gle@earthlink.net, if you have any questions or are interested in volunteering for this event.

XWARN Mission

The mission of the Xenia Weather Amateur Radio Net (XWARN) amateur radio club is to conduct weather spotting nets during severe weather and other communication services for the City Of Xenia and all other Greene County communities.

In this capacity, we are set up to provide communication services as required to the Greene County Ohio Public Service Agencies and other local government entities. The communications services provided to the supported agencies may be for emergency purposes or to simply enhance their communications abilities. On an as needed basis XWARN provides similar services to various government entities of our surrounding counties.

Additionally, XWARN provides communications support to various community organizations in support of marathons, 5K runs, 10K runs, bicycle events, etc. to provide health and safety assistance to the participants and sponsors of said events.

In support of these goals, XWARN operates and maintains amateur radio repeaters and other equipment in Greene County.

Minutes: June 10, 2019

Meeting was opened by Liz at 1932. 18 members present, 3 guests present.

Minutes. Jim Simpson and Ken Cornett motioned. Motion passes unanimously.

Cracker Barrel. Lots of discussion on tornado response. Cell service went down, major power went down. Have your meds ready because you might need to evacuate quickly.

Committee Reports

Membership. 56 total. 9 life, 47 paid members.

Treasurer's Report. We have money. Simpson and Beller motion. Motion passes unanimously.

Public Service. Founder's Run 5k last Saturday. Little Miami Triathlon cancelled at last minute due to high water. Young's Dairy in July. Contact Mike Crawford. Air Force Marathon in Sep. Contact Phil Verrett.

Secretary's Report. The Secretary, Jason Bowman, announced that he is not running for Secretary for the next fiscal year. He also announced he is giving up the newsletter. Three roles need filling—Secretary, Statutory Agent, and Newsletter Editor.

Trailer. Trailer coordinator not present for a report.

Repeater. Replaced power supply on amp to 440 machine. Jim and Bret did that. Any complaints? Can we get the power supply repaired locally? Half of what a new one is going to cost. Just do it. We will need a duplexer for the second repeater. Jim Simpson has one available. Other tuned cavity requirements related to sharing site with DARA. Antenna is up and functional at Clifton Rd site 300ft elevation.

Website. Still need to look at Paypal. Slowly getting email reflectors fixed.

Facebook. Pictures posted, events posted.

Newsletter. Jason is always looking for contributors. He will even research and write up ideas, but he needs the ideas.

Mesh.

Old Business

Hamvention sales went well. Sold out by noon on Saturday. Quite a few sweatshirts left over. Kids shirts for next year?

New Business

Field Day coming up. Joining DARA at Beavercreek 61 Orchard Lane. Setting up at 0900. More people for setup the better. Bring your own chairs. Need people to operate at night.

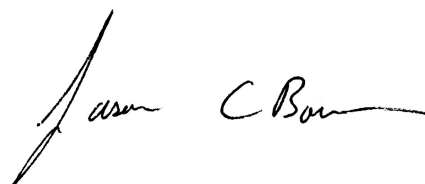
Liz went to Hamcon in Tx. It was cool. Orlando's Hamcation and Huntsville put out a press release about Dayton tornadoes showing support.

T-shirts for club? There's interest. Polos vs t-shirts? Collared sports shirt with pocket?

Presentation

Jason demonstrated his setup for portable power for all of his devices as described in the May 2019 newsletter.

Meeting adjourned some time after 2030. Janese, Chester motioned. Approved.

The image shows two handwritten signatures in black ink. The first signature is 'Jason' written in a cursive, flowing style. The second signature is 'C Bowman' written in a more formal, blocky cursive style.

Jason Bowman, WG8B

Secretary

Hamvention Notes, Paul Breneman, KD5PDP

Editor's Note: Paul says he wrote this for some non-amateur friends. Please view it from that perspective.

May 19, 2019 was my first time to visit the [Day-ton Hamvention](http://bit.ly/2JvzjjJ) (<http://bit.ly/2JvzjjJ>), though I've often heard about it and wanted to attend many times. I [walked through](http://bit.ly/2FLZZLQ) (<http://bit.ly/2FLZZLQ>) 3 large buildings full of commercial vendors but didn't stop or spend much time there.

I wandered into a different building and took in this: 9:15-10:15 Room 3 [Tornado Alert - Severe Weather Detector](http://bit.ly/2Xllhtq) (<http://bit.ly/2Xllhtq>), [Mickey Lee](http://bit.ly/2YstNUY) (<http://bit.ly/2YstNUY>). It is well known that tornadoes can be identified visually or by analysis of doppler radar. Advances in technology have allowed sensors that measure electrical energy, lightning and others sources, to determine how intense is the thunderstorm that is generating the energy. [One device](http://bit.ly/2Xjc6uM) (<http://bit.ly/2Xjc6uM>) even determines distance and movement as it updates every minute. This talk will describe the technology and how to utilize for household protection, storm spotter activity, or lightning threat awareness.

[David Eaton](http://bit.ly/303GC8B) (<http://bit.ly/303GC8B>), KB5EDB and a member of the [San Angelo Amateur Radio Club](http://bit.ly/2KQxBwb) (<http://bit.ly/2KQxBwb>), spoke a little at the end of the lecture. He mentioned that a tornado hit a block from his home (in San Angelo, TX) the day before. He took a lot of weather [pictures](http://bit.ly/2JgLu3K) (<http://bit.ly/2JgLu3K>). He has been a weather spotter for a long time. He is quoted towards the bottom of this [article](http://bit.ly/2Lvn35i) (<http://bit.ly/2Lvn35i>).

I later found myself in another building and took in some of this: 10:30-11:30 Room 1 Power and Energy for the Radio Amateur, Bob Bruninga, WB4APR. Solar costing less than half the utility; Electric Vehicles able to power your FD site or house for a week; Cutting heating fuel costs in Half with portable and window heatpumps! These are just some of the exciting projects covered in this new and exciting forum. Second to APRS, Bob (WB4APR) Bruninga's interest in Ham Radio is about emergency and field operations and saving money on Energy. Now he has written a book on Energy and Power for the Radio Amateur that is newly published by the ARRL. He will describe how to get involved in solar addressing grid-tie and off-grid applications and include many DIY approaches to

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Field Day Notes, Gerd Schrick, WB8IFM

Editor's Note: Gerd is active in the Bellbrook Amateur Radio Club (BARC).

Every Field Day is a little different and some are quite memorable. I think this one will be very special for me at least. I had a plan to operate my station obtaining the primary power from my little electric car which I acquired 2 years ago. Last year we were gone on a trip to Germany and therefore I missed Field Day. So, I was glad that I could squeeze into the Bellbrook Set-up.

After we set up the antenna, a 3-element Yagi on a 30-foot mast, we made up a cable with No.12 wire and connected it to the 12V on-board regular battery available over a cigarette lighter socket in the car. I had the key in the "ignition" but without engaging the motor.

Indeed, the transceiver came on and I searched the lower part of the 6m band for signals. I did indeed hear a bunch of strange sounding signals, possible a beacon among them, but there were no ham signals at all.

Next were some experiments to determine which position of the ignition key would cleanly separate the accessory socket from the rest of the car. From some cars I have had, the key had to be in the opposite from the starting position. Unfortunately, we lost power. So, something wasn't quite right. Using two VOMs, we narrowed down at least one problem between the 12V plug and the 12V socket. These could only be measured using the Ohm function, but we could not look inside for a problem.

Then came the picnic. The xyl came to visit and we decided to leave early. Maybe I could fix the plug or maybe buy a new one. Fred suggested, if we couldn't get our power problem solved, to use a regular power supply. We promised to be back Sunday morning by 8 AM.

We really were lucky with the weather which could hardly have been any better. There was continuous sunshine -- actually wound up with a minor case of sunburn on my lower legs. We were too tired to do much checking or looking for a replacement plug Saturday night.

So, on Sunday morning we went out to the site at about 8 AM, had some breakfast and a good cup of coffee, then connected up a regular 12 V power supply to our Kenwood TS 2000. The

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Hamvention Notes, Paul Breneman, KD5PDP

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this highly economical source of power. He has a history with EV's going back to 1970 when he built his first EV as a senior at Ga Tech. Then acquiring a City Car in the 1980s and more recently [converting salvage Priuses](http://bit.ly/2FMMMIZ) (<http://bit.ly/2FMMMIZ>) for solar power and emergency field operations. Now he has found the Volt to be the ideal EV for long EV local range and for cross country trips.

Paul Breneman, KD5PDP

Field Day Notes, Gerd Schrick WB8IFM

(Continued from page 5)

6m band for SSB ranges from 50 to 50.3 MHz, and I started to tune up and down that range only to find a lot of odd sounding carriers that maybe only a real expert may be able to identify. Later on, we identified one as a beacon signal from Cincinnati. This went on for a while – an annoying part because I could not use headphones. Those all outfitted with mini-phone plugs while the 2000 required the (older) standard 1/4" plug. So, all could listen to my noise and the scroungy carriers I came across.

Of course, I had to go out to the antenna, an "Armstrong" design, and move it to different directions. Surprise: at 11:20 there was a lone signal: Ax, who is from Dayton, was operating "portable" from somewhere in central Ohio. He sounded hopeful. He had just worked stations on the East coast and also a Canadian station, and he recommended highly to point our antenna towards the North East. So, the ice was broken – looked like we had some opening!

The antenna pointing was the easy part, picking up another station something else! So back we went to the routine of tuning up and down the band. At least now we could post our first entry, you could say we broke the ice! Ken, W8ASA, helped with putting the data into the computer, which I had done years ago but, of course, had mostly forgotten. At 12:44 there was another signal and our second QSO: It was W0NOZ from South Dakota (2A-SD). At 13:53 we sent out our last CQ and got no response. Conditions just were not there.

In hindsight, this was, in spite of the poor conditions on 6m,

quite a good Field Day. The weather was super, the short waves were very busy most of the time, and the results were very good. John also kept busy with his Morse key and made contact after contact with his special ground plane. I noticed all the shiny ground wires – they were certainly helping the signal get out! He made it to the top of our chart!

Tear down was well organized and quick including my Beam. As the driven element of my 3-element Yagi was too long for my little Fiat electric, Ken (W8ASA) and I had made a separate trip in his large sedan to pick it up and the other elements, too. So, for the return trip, I got it into the my little electric with the driven element sticking out of the right front window. It looked ok, however, we pulled a strip of "border tape" from a trash can, straightened it out, and tied it around the tip of the element. Even at a quite moderate speed we experienced an almost continuous snapping sound all the way back to home.

Gerd Schrick, WB8IFM



Aeronautical Band Taking Over 2m?

There's some surprising news out of the World Radiocommunication Conference 2019 (WRC-2019).

France, ITU Region 1, put forward a last-minute proposal to reallocate 144-146MHz to the aeronautical band without any explanation.

According to the interwebs, this slice of frequencies is the only common amateur radio VHF band throughout the world.

As you can imagine, the amateur radio interwebs are in panic mode over on [YouTube](http://bit.ly/3231crD) (<http://bit.ly/3231crD>), [ARRL](http://bit.ly/2FMTW9X) (<http://bit.ly/2FMTW9X>), [Twitter](http://bit.ly/2JIH4bC) (<http://bit.ly/2JIH4bC>), [Change.org](http://bit.ly/2XrtKwx) (<http://bit.ly/2XrtKwx>), [QRZ](http://bit.ly/2LsHpMx) (<http://bit.ly/2LsHpMx>), [Reddit](http://bit.ly/2xor4Qu) (<http://bit.ly/2xor4Qu>), [Radio Society of Great Britain](http://bit.ly/2XcnCml) (<http://bit.ly/2XcnCml>), and [Deutscher Amateur Radio Club](http://bit.ly/2JoilDQ) (<http://bit.ly/2JoilDQ>) (open this one in Chrome, right click, and select "Translate" if you don't read German).

My advice? DON'T PANIC ... harkening back to Douglas Adams' *Hitchhiker's Guide to the Galaxy*. On the other hand, it is my opinion that amateur radio needs to be honest and constructive here and be prepared with data not rhetoric. RSGB specifically warns,

We are very aware that this topic has understandably animated and concerned the community, with a number of online petitions amongst other media threads. However it is important that these and other comments should be based on the correct background facts. It would be unfortunate if 'careless comments cost bands'.

So, why shouldn't amateur radio panic? First, nothing is going to happen anytime soon. The earliest WRC could vote is at WRC-2023 four (4) years from now. In the meantime, studies would ensue. Second, these studies would surely indicate this would be a major change for the aviation community even relative to the narrowbanding — from 25kHz to 8.33Khz — that has occurred over the past couple of decades, especially in Europe. Proposed major changes have a way of causing major headaches and typically die. Third, at least ten (10) countries would have to approve the proposal, and no more than six (6) countries can object.

What does amateur radio need to do in my opinion?

First and foremost, stop the rhetoric and gather real data to support claims.

Second, realize that amateur radio is not a right rather a privilege. Are we using the bands in a way that would seem useful to an outsider or decision maker?

Again, gather real data and present it. Don't just make rhetoric. "Many accolades were received from emergency managers" as published in the latest [ARES e-Letter](http://bit.ly/325bozW) (<http://bit.ly/325bozW>) about the amateur radio Memorial Day tornado response isn't data — it's rhetoric. I would challenge the State of Ohio and the Southwest and West Central Ohio county Emergency Coordinators (ECs) to fully document the amateur radio response with real data and assessments from served agencies and make that report available. I would also challenge them to do this after every event including exercises.

But, given the history of amateur radio, what's coming in general may not be kind. A very long time ago, 11m was lost to CB.

Then 220MHz. I can only assume it was because a lack of activity and the presence of other interested users with more compelling use cases.

The relatively low numbers of amateur radio operators coupled with an explosion of WiFi and cellular spectrum requirements over the last 20 years and projected future requirements are going to present even more difficult challenges for amateur radio spectrum.

Remember, DON'T PANIC. This is not likely going anywhere beyond a study stage. But we need data to make the rhetoric real to fight this and other fights to come.

Jason Bowman, WG8B



Gas Can for a Tesla?

In “Hamvention Notes, Paul Breneman, KD5PDP”, there was a link to Bob Bruninga’s project on a [solar Prius](http://bit.ly/2FMMMIZ) (<http://bit.ly/2FMMMIZ>). It must be serendipity because a few days prior to starting this newsletter I came across an interesting pair of videos on developing an emergency “gas can” for electric vehicles. The first video is about the [test results](http://bit.ly/2xsGVxK) (<http://bit.ly/2xsGVxK>), and the second is about the design and construction of the [600 amp-hour “gas can”](http://bit.ly/3089Lji) (2.2KWhr) (<http://bit.ly/3089Lji>).

The bottom line is that road vehicles require a lot of power, gas or electric, and a 2.2kWhr “gas can” only gives you another few miles of driving in an EV. That’s why fossil fuel powered vehicles aren’t going away any time soon. Batteries can’t compete with the energy density of fossil fuels. Lithium ion has between 300-900 KJ/kg of energy. Fossil fuels have about 42MJ/kg, which is about two orders (100x) higher energy density. Bob’s solar panels may keep the batteries topped off, but they really aren’t well suited to charging a run down Prius or Tesla.

Another aspect of this is how fast can your vehicle actually take a charge. Well, these “gas cans” and solar cells don’t provide much current at all. Getting the extra 2-3 miles takes forever. Even plugged into a 240VAC wall socket, it takes a long time to top off an EV.

Enter [Lithium Titanate](http://bit.ly/2Lx5tOg) (<http://bit.ly/2Lx5tOg>) batteries. While the energy density is way off from other lithium chemistries — they’re more like NiMh batteries — you can slam them with charge current — Imagine going from empty to full in an EV in 15 minutes! And they have a 20,000 cycle life time! The typical lithium battery only has a life of 1,000 charge cycles, and lithium iron phosphate is about 2,000-5,000.

Jason Bowman, WG8B



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Wavelengths

Wavelengths is published monthly by the Xenia Weather Amateur Radio Net. Our meetings are currently held on the 2nd Monday of each month at **7:30 pm** at the Greene Memorial Hospital Auditorium. You can find additional information about our organization at www.xwarn.net. We welcome new and experienced Amateur operators and those interest in becoming an Amateur operator to attend our meetings.

