

A preview of a write-up for the June Wavelengths Newsletter involving amateur radio and loss of life. The picture was cropped to fit but also to avoid giving away the surprise too easily.

Wavelengths

May 2018

Xenia Weather Amateur Radio Net XWARN (W8XRN)

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

In May, Xenia will become the center of the ham radio universe as over 30 thousand amateur radio enthusiasts are expected to attend Hamvention at the Greene County Fairgrounds, held May 18 through May 20. Once again, XWARN will be selling Hamvention t-shirts and we ask all able members to help in this effort. Shirt sales provide the majority of the operating funds for the club and we have over 1200 shirts to move this year.

XWARN will also provide our Communications Support Trailer for Greene County Emergency Dispatch to use as their operations center during the event. We are going to perform trailer cleaning on Saturday, May 12, starting at 1:00 PM, at Mike Crawford's house.

At our next meeting (Monday, May 14, 7:30 PM), Janice Crawford and Steve Mackey will try to fill spots on the shirt sales schedule. They will also have shirts available for pre-show sales at club members discounted prices.

For those of you who have volunteered to help on the Hamvention Communications Committee, Mike will have your volunteer badges, tickets, and hats at the meeting. I will have an updated copy of the volunteer schedule.

I am seeking volunteers to support a couple of events. On Saturday, May 12, 7:30 AM is the Founder's Run (10 K and 5 K) which starts and finishes at Trebein Elementary (Dayton-Xenia Rd, just west of Trebein Rd). On Sunday, June 3, 9:00 AM is the Little Miami Triathlon which is held in and around Fort Ancient State Park. Let me know if you can help (n8ado@arrl.net).

Club Contacts

- President, Bob Baker, N8ADO
President@xwarn.net
- Vice President, Brett Boggs, NV8I
Vicepresident@xwarn.net
- Secretary, Jason Bowman
secretary@xwarn.net
- Treasurer, Steve Mackey, N8ILR
Treasurer@xwarn.net
- Repeater Guru, Jim Simpson, WB8QZZ
Technical@xwarn.net
- Web Master John Seitz, N8ACU
webpresence@xwarn.net
- Membership, Phil Verret, KA8ZKR
membership@xwarn.net
- XWARN Trailer / Public Service, Mike Crawford, KC8GLE
trailer@xwarn.net or
publicservice@xwarn.net
- Newsletter, Jason Bowman, WG8B
newsletter@xwarn.net

Beavercreek Robotics Club Continues to Impress

XWARN sponsored a new student robotics club in Beavercreek last November. The robot was design, built, and tested over a very short 6 week period starting in early January. Their first competition was at Nutter Center at the end of February. The team was awarded “Rookie Team of the Year” for that regional event, which qualified them for Worlds at Detroit just a few weeks ago (see picture on previous page). In between, they also participated at a regional event in Cleveland. At Nationals, the team was able to rank 29 out of 60+ teams in their division. There were over 400 teams at Worlds! And remember this was a rookie team.

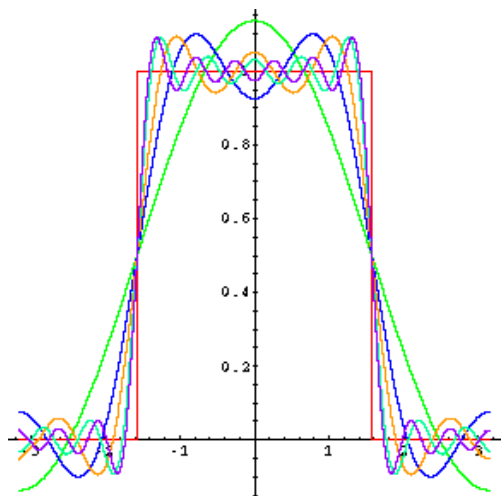
If anyone would like to become a mentor or make donations of money or equipment, please contact me (Jason Bowman) at jason.bowman.1971@gmail.com or by phone or text message at 937-260-2870.

Jason will be working to get the robot to an XWARN meeting for show and tell at some point. However, if anyone would like to stop by the facility, let me know. We’re in Russ Research Center on Indian Ripple. We are going to try meeting once per week during the off season and maybe twice per week once school starts back up.



FIRST Robotics Championships. Detroit's Cobo Center. April 25-28, 2018. There are about 400 teams at this event, which require 6 fields to get through all of the matches required.

Avoid Cheap Inverters if You can Afford It!

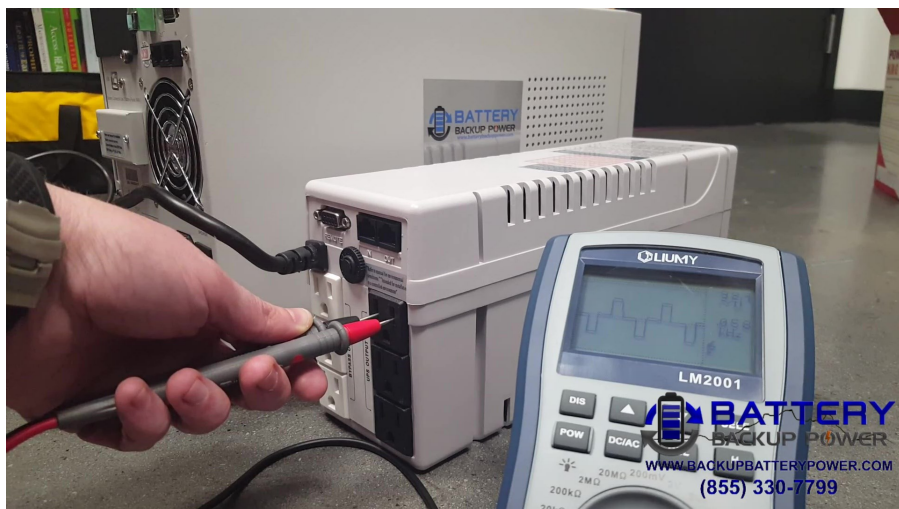


Most inverters that you can easily buy do not produce a pure sine wave output. In fact, most simply produce a square wave with one peak at +120VAC, another peak at -120VAC, and 0VAC in between and can be seen in the picture below.

There was this guy name Fourier about 200 years ago who said that any wave is composed of a sum of superposed sine waves.

To create a square wave requires an infinite sum spanning from low frequencies to high frequencies. The higher frequencies have to be filtered by sensitive electronics or damage will occur. However, most electronics today are expecting reasonably behaved power such as that coming over the utility lines. But even that sometimes is quite bad. When cheap capacitors and inductors are confronted with the garbage coming from a square wave, they can fail fairly quickly. So if you can afford it, seek out inverters marked as “pure sine wave”. If you see anything else such as “modified sine wave”, it may be good for incandescent light bulbs but not much else. Even laptop power supplies have been known to fail when plugged into cheap inverters.

Because the picture below may be hard to see, please visit the original [video](https://youtu.be/yhDoFBSS9hc) (<https://youtu.be/yhDoFBSS9hc>) on YouTube to see this in action.



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: April 9, 2018

Bob opened the meeting at 1930.

Phil ZKR has some tower components

Motion to approve minutes from March: Jim Beller, Richard motioned. Passed with 1 no vote. Motion approved.

Motion to approve the Treasurer's Report: Bret, Phylis second. All in favor. Treasurer's Report was approved.

Committee Reports

Public Service. ORRRC Half and Full Marathon. Special thanks to Jason for braving the cold. Thank you to Jim for making it back from the doctor after a spill on the ice the morning of. We had a gentleman with heart pains. Another with leg pains. 2 dispatchers, officers visited trailer. Next week spring has sprung 5k. Starts and ends at the YMCA. No butts about it 5k went well. Got thank you card, but forgot to bring it to the meeting. May 12. Founder's Run at Trebein elementary.

Trailer. Trailer performed well at ORRRC Marathon. UPS fan is noisy, battery probably shot. Lost an original antenna pulling trailer out of spot due to fallen tree limb. New chairs much better than old chairs.

Field Day. In same place at Station 61. Jim Beller reserved. Conducting jointly with DARA.

Repeater Status. It's working.

Website. Not here.

Membership. 2 new members. Josh Long and Kyle Wiedenheft (KE8HFK). 38 members

T-shirts for Hamvention. Increase quantity by 15% due to selling out early last year. Volunteer sign up list going around.

Newsletter. Send me ideas. How many people read the newsletter? Lots according to the number of hands raised. 10 day requirement for written votes may need revisiting due to inability to get Newsletter out that early.

Facebook. Secretary's Note: There was no status report at the meeting, but since the last meeting there has been movement on the Facebook page as evidenced by several posts.

New Business

Free membership. Free membership for next fiscal year. Any new ham, any upgrade. Unanimous 17 votes (not all members present voted). Motion passes. Secretary will update the governing documents with official language.

Update to ICOM 2730 radio in trailer. Need programming software, too. Old 2720 to EOC? Issue was discussed with those present (Secretary's Note: vote not required due to dollar value per XWARN's governing documents).

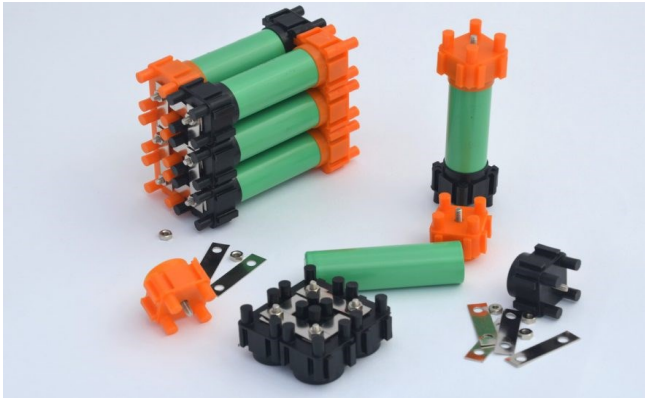
Do we want to allow equipment to be sold at XWARN T-shirt booth? Most definite "No" from the membership. Jason offered to show people how to use eBay.

Jason Bowman

WG8B, Secretary

Projects Galore This Month

First up is a DIY lithium ion battery building kit. Typically batteries have to be tack welded together or soldered into battery pack. Now there are modular options allowing DIY'ers to quickly build and reconfigure battery packs to their heart's content. You can find more information on [electrek.co's](http://bit.ly/2jPBpOZ) (<http://bit.ly/2jPBpOZ>) website, which directs you to even more information out on the inter-webs.

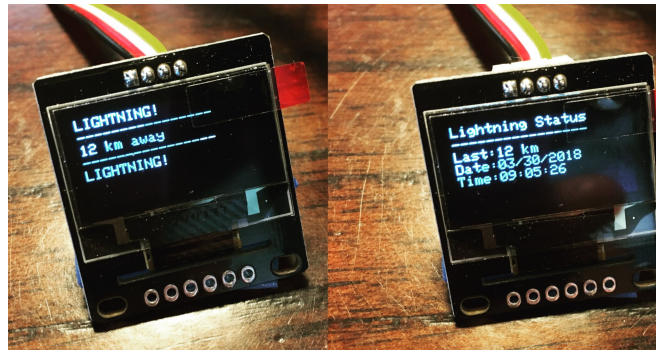


Next up is a Raspberry Pi software defined radio (SDR). From [Hackaday](http://bit.ly/2G0yjQH) (<http://bit.ly/2G0yjQH>),

“What about the idea of an SDR without any external hardware? Instead of plugging something into your Raspberry Pi, how about using the Pi itself, unmodified? That’s just what the Nexmon SDR project has achieved, and this has been made possible through clever use of the on-board Broadcom 802.11ac WiFi chip. The result is a TX-capable SDR, albeit one only capable of operating within the 2.4 GHz and 5 GHz spectrum used by WiFi.”



Then there this neat little lightning detector that connects to an OurWeather weather station.



What is [OurWeather](http://bit.ly/2KNLTKZ) (<http://bit.ly/2KNLTKZ>)?

OurWeather is an ESP8266 based connected weather station containing 7 different sensors that will teach about electronics, software and the weather. It contains all the sensors and wires to make a fully functional, WiFi weather station. No software programming is required, it works right out of the box. However, if you want to change the way OurWeather works, add your own software or do something entirely different, we have the Open Source software available. And what is one of the coolest features of OurWeather? Building the kit requires NO SOLDERING. It uses Grove Connectors. It is all plug and play based building, with a full step-by-step photograph based instruction manual. It is a safe and educational way to learn about weather, electronics and science topics. You can watch our successful kickstarter video here: <https://youtu.be/pw6hSNSQnsM>

Club Call: W8XRN

XWARN
P.O. Box 562
Xenia, Ohio 45385

Email: info@xwarn.net
Website: XWARN.NET

«FNAME» «LNAME» - «CALL»
«ADDRESS»
«CITY», «STATE» «ZIP»

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.

