

# WATTS HAPPENIN'

## Newsletter Of The Wayne Amateur Radio Club



Monthly Meeting • Third Thursday  
Wayne Co Communication Center • Corner of Burbank & Oldman Rds • Wooster, Ohio

W8WOO Repeaters  
147.21 Mhz (PL 88.5) • 443.175 Mhz (No PL)

*SERVING WAYNE COUNTY OHIO SINCE 1972*



## SEPTEMBER MEETING



The regular meeting of the Wayne Amateur Radio Club will be on Thursday at 7:30 p.m. on September 17, 2015, at the Wayne County Communications Center at the corner of Burbank and Oldman roads in Wooster.

Last month, we had another session of our “Continuing Education” series with a discussion of “Bridge Circuits”. This month, we’ll concentrate on “VOX”. If you are an ARRL member and want a head start, you can go to [www.arrrl.org/hads-on-radio](http://www.arrrl.org/hads-on-radio) and read Experiment #40.

We will be monitoring the W8WOO repeaters: 147.21 Mhz, PL 88.5 • and • 443.175 Mhz, no PL

Should you need directions, give us a call. See you there.

## • DX GROUP •



Left • Photo from the group’s annual picnic.

The group meets on the fourth Tuesday of each month. The next meeting is scheduled for Tuesday, September 22, 2015, at the home of “Goose” Steingass (W8AV). If you like to talk radio, work DX, or just need a night out .... this is your place. Among other things, we will be discussing recent contesting, upcoming contests, recent DX contacts and activities. In other words, “good ol’ Ham Radio”.

The WARC DX Group also promotes and participates in a weekly DX Net every Thursday beginning when you hear someone talking. The net will be on 147.48 (simplex). Listen in, participate and work some DX. You’ll find everyone very friendly and helpful.

## ANTENNA ANALYZERS YOU CAN HACK

By Dan Romanchik • KB6NU

I'm a nut for antenna analyzers. I think that they are one of the most useful things a ham can own.

I've often wondered why there aren't more DIY antenna analyzer projects, though. Perhaps it's because designing measurement circuits isn't easy. An antenna analyzer has to have a signal source as well. Even so, an antenna analyzer doesn't need a whole lot of accuracy to be useful, so you would think that more builders/hackers would tackle a project like this.

I do know of one antenna analyzer kit on the market. The VK5JST Antenna Analyser Kit (<http://www.ahars.com.au/about/kits/>) costs about \$110 USD. I actually purchased this kit a year or so ago, and it looks like a great unit. The unit seems well-designed, and it comes with a plastic case, unlike many projects these days, but I haven't yet gotten around to building it.

I've also recently found out about an Arduino-based antenna analyzer project (<http://hackaday.com/2015/08/06/40-antenna-analyzer-with-arduino-and-ad9850/>). It uses an AD9850 module as the signal source. The approximate cost for all the parts is about \$40, and you can experiment with the code, if you like. If you have the time and inclination, this project might be worth taking a hack at. [[NOTE TO EDITORS: A photo of this project can be found at <http://www.kb6nu.com/wp-content/uploads/2015/08/analyzer.jpg>]]

Another antenna analyzer project from Australia is the VK3YY antenna analyzer (or "analyser" as they spell it there). It uses an Arduino Nano. The interesting thing about the blog post in which VK3YY describes the project (<https://vk3yy.wordpress.com/2014/09/29/antenna-analyser-project/>) is that you can follow his design and experimentation process.

### Yet another analyzer

While I'm talking about antenna analyzers, let me mention another one that I've just found out about: the IW2NDH Antenna Analyzer (<http://www.iw2ndh.com/>). This antenna analyzer isn't a kit, but at \$175 seems to be a good deal. This unit has a frequency coverage of 2 – 160 MHz, and can be used as an antenna analyzer, signal generator, and a scalar network analyzer.

Apparently, this started out as an Arduino project. As Maximo, EA1DDO, pointed out on the radioartisan Yahoo Group, there is source code for this project on GitHub (<https://gist.github.com/jackdev23/7876502>), and a schematic is available on the Union de Radioaficionados Espanoles (URE) website (<http://www.ure.es/media/kunena/attachments/2420/Schematic.jpg>).

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When not writing about antenna analyzers, Dan, KB6NU, actually builds an antenna now and then. You can often find him on the HF bands (mostly 40m and 30m), working CW. His #1-rated amateur radio blog can be found at KB6NU.Com, and you can e-mail questions, comments, or complaints to [cwgeek@kb6nu.com](mailto:cwgeek@kb6nu.com).

## **Greetings everyone, welcome to "Dale's Tales" for September 2015**

**SPECIAL EVENT:** September 12 is the date for the Greater Louisville Hamfest. See <http://louisvillehamfest.com/> for complete details. The Hamfest will be hosting the Kentucky State Leadership Conference with nine forums on the schedule. KY Section Manager Alan Morgan KY1O will kick things off with an update on Visions and Goals for the Kentucky Section. Forums include the KY EOC, Red Cross interfacing, Training goals, Search and Rescue, KY NTS activities, working with health care alliances and ARES Leadership. Your Vice Director Tom Delaney W8WTD and I will be there to meet with attendees and participate in the ARRL forum activities.

**CONVENTION FINAL:** My personal thanks go to everyone who worked so hard to make the 2015 Great Lakes Division Convention a successful event. The attendance exceeded expectations. The forums got rave reviews. The Wouff Hong ceremony welcomed 45 "novices" into "The Order". Our Keynote Speaker Debra Johnson K1DMJ provided us with insight towards getting school students interested in Amateur Radio and the steps necessary to promote school ham clubs.

On the Division Level, the Great Lakes Division's DX Achievement Award was presented to Jay Slough, K4ZLE for his outstanding service to the DX community.

Of course the Section Managers presented several awards to deserving amateurs and clubs. For Club Newsletters, in Ohio, the 1st Place winner is the DELARA NEWS. 2nd Place winner is The TM&K. For 3rd Place, a three way tie occurred and the winners are The MVARA Voice Coil, the Mount Vernon, Radio Club and the PCARS Radiogram.

The Michigan newsletter contest first place award went to the Blossomland ARA Rusty Key and second place went to the Michigan QRP Club's 5 Watter.

After selection and awards are presented by the individual Section judges, these winners compete for the Division's Newsletter contest award. The winner of the 7th Great Lakes Division Newsletter Contest was the DELARA News from the Delaware ARA Club in Ohio. Stan Broadway, N8BHL is the editor.

Ohio's Allan Severson Memorial Award was presented to Bob Dixon, W8ERD.

Michigan's ARRL Service to Scouting award went to Frank Maynard, NF8M for his many years of service to the scouts of Michigan.

The Michigan Ham of the Year Award was presented to Ed Hude, WA8QJE for his many years of tireless effort to get a Michigan PRB-1 bill passed into Michigan law.

Our congratulations to all of these winners and our special thanks to the Voice of Aladdin Amateur Radio Club for hosting a very successful Convention.

**A NOTE OF THANKS:** To Jim Bridgewater, District Director of the Detroit FCC office, who, despite its unfortunate future, worked with his staff and local hams, tracked down and took action against two regional amateurs who had been creating deliberate interference and failing to properly identify their stations. We all have been concerned about the FCC's cuts and the potential impact upon the Amateur Radio Service. It is good to note that the Commission still remains vigilant and concerned about the scofflaws and miscreants that occasionally appear

to the detriment of all of us. Thanks Jim, and best wishes to you and your staff from the entire Amateur Radio Community.

**COMMENTS:** from our Vice Director, Tom W8WTD There is a new round of hamfests coming up for the fall. I plan to be at Greater Louisville, Findlay, Cincinnati (OKYIN), and Vette City. And maybe some others. It's a good time to meet people, and talk ham radio issues. I'm always glad to find out what's on your mind, so come up and say hello if you see me at your hamfest. There are also some club meetings on my agenda for the fall.

Having participated in the communications for one bike ride here in SW Ohio, I am reminded of the good work we hams do all across the country.

There are bike tours, walks, runs, car rallies, all sorts of events where our participation as safety communicators is so helpful. Every weekend of the summer there's some sort of activity on a repeater nearby. These are the kind of things that make us valuable assets to our communities. If you didn't take part in an event this summer, maybe you'll have time to help out next summer!

# **Wayne Amateur Radio Club**

## **Minutes of August 20, 2015 Meeting**

President Tom Zilko (N8JBC) opened the meeting at 19:43 hours with 8 members and 1 guest present.

### **Secretary's Report** – John Lilburn (KF4UTY)

The minutes for the last WARC meeting held on July 16, 2015 were presented. A motion to accept this report was made, seconded and passed

### **Treasurer's Report** – Russ McQuate (K8RMC)

The club's treasurer presented a report detailing the current finances of the WARC. A motion to accept this report was made, seconded and passed.

### **Repeater Trustee's Report** Mike Brugger (N8CEY) not present

- We were advised that the Yaesu 2 meter/ 440 digital repeater has been ordered. The Diamond # 300 order has been temporarily held up awaiting the arrival of the Yaesu.
- The Diamond #510 antenna, authorized last month, was ordered and has arrived.

### **Emergency Coordinator** Mike Brugger

\_No Report

### **DX Group** – Russ McQuate

- The July meeting was held at the home of Scotty Myers (KG9Z) on July 28<sup>th</sup>
- The August meeting will be a picnic at the home of Doyle Braun on Aug 25<sup>th</sup> at his home in Ashland. Those interested in carpooling should meet at the home of Tom Zilko at 6:00.

### **Ham Fests**

Cuyahoga Falls 8/23/15  
Findley 9/13/15  
Cincinnati 9/19/15  
Cleveland 9/27/15

### **Old Business**

Nothing to report

### **New Business**

Scott Yonally (N8SY) ARRL Ohio Section Manager was present and offered the latest information on “Ohio’s New Amateur Radio Antenna Law”. Among other facts, the new law requires that local zoning authorities “not restrict the height or location of antenna structures in such a way as to prevent effective radio communications”. Those interested in a copy of this 2 page law should e-mail the club secretary (see below).

Meeting adjourned at 19:50 hours.

Russ McQuate made a Power Point presentation covering design of bridge circuits.

Submitted by John Lilburn, KF4UTY

WARC Secretary

E-mail – jlilburn@aol.



## *Ohio's New Amateur Radio Antenna Law*

### Introduction

Both existing federal law and newly-enacted Ohio law define the rights of Ohio radio amateurs to erect and maintain antennas. The following has been prepared by the Ohio Section of the American Radio Relay League, Incorporated ("League") to familiarize Ohio radio amateurs and city, township and county zoning authorities with their respective rights and responsibilities under these laws.<sup>1</sup> The League is the national association for Amateur Radio, dedicated to the support of over 720,000 radio amateurs throughout the United States and having a membership of over 160,000 members.

The Ohio Section is a statewide branch of the League, dedicated to the support of over 28,000 radio amateurs within Ohio.

### Background

Amateur radio operators are licensed by the Federal Communication Commission ("FCC"). FCC regulations govern the examination, licensing process and operating privileges for each class of Amateur licensee.

Over the years, radio amateurs ("hams") have served as a valuable resource to public safety services in times of disaster when other forms of communication such as telephone, cell phone and the like have failed. Hams not only provide valuable disaster communications resources, they also serve as educational resources, for example, by connecting local school children with astronauts aboard the International Space Station. Additionally, the technical expertise of many radio amateurs has advanced the development of numerous technological achievements.

Because of these contributions and in view of the negative impact of restrictive antenna zoning regulations on Amateur Radio, the FCC and the United States Congress has repeatedly recognized a strong federal interest in promoting Amateur Radio throughout the country and insuring its availability for the benefit of the public.

### Federal Law Creates Antenna Rights for Hams

The FCC has adopted regulations protecting the right of radio amateurs to erect and maintain antennas. The FCC regulations have the force and effect of federal statutes and are binding on states as well as agencies of local government, including local zoning authorities. These regulations contain three general requirements: 1) local zoning authorities may not prohibit Amateur Radio communications; and 2) local zoning authorities must provide reasonable accommodation for Amateur Radio antenna requests; and 3) local land use regulations affecting Amateur Radio antenna facilities must constitute the minimum practicable regulation to accomplish a legitimate municipal purpose.<sup>ii</sup>

### Ohio's New Antenna Law

On August 15, 2012 H.B.158 (129th General Assembly) became law in Ohio. That Bill applies to all city, township and county zoning authorizes and codifies Ohio's recognition of the federally protected rights of Ohio amateur radio operators to antennas. The Bill requires that local zoning authorities "...not restrict the height or location of amateur station antenna structures in such a way as to prevent effective amateur radio service communications..."

The Bill also imposes affirmative obligations on local zoning authorities to provide "reasonable accommodation" for Amateur Radio antennas and limits regulation to the "...minimum practicable regulation necessary to accomplish the legislative authority's purpose."

The duty of zoning authorities to provide "reasonable accommodation" for ham antennas is underscored by the obligation of the zoning authority to bear the burden of defending its actions in the event of appeal.<sup>iii</sup>

In enacting H.B. 158 Ohio joined 27 other states that have passed similar legislation protecting the rights of amateur radio operators to erect antennas.

#### **Impact on Building Permit and Zoning Variance Decisions**

The concept of "reasonable accommodation" as required by both Ohio and federal law is based on the unique circumstances of each request. For example, the optimal height of some amateur antennas will be a function of the frequencies on which the antenna is designed to operate. The following suggestions convey the intent of the laws as applied to some of the more common zoning issues.

#### **Tower Height**

Many amateur activities can be accomplished with an antenna height of 75 feet above ground. Other applications may require a greater height.

#### **Setback Limitations**

The size of an amateur's lot should not dictate the configuration of his or her antenna installation. Properly engineered and installed antenna support structures will survive winds that could destroy other structures in the area. "Reasonable accommodation" of an amateur antenna request should take all of these circumstances into account, and may not simply be rejected by rote application of a formula based on lot size.

#### **Interference**

The FCC has exclusive jurisdiction to address radio interference issues. Thus, interference is not a consideration for state or local authorities.

#### **Aesthetics**

The fact that some may consider Amateur Radio antennas unsightly does not diminish the legally protected right of the radio amateur to have antennas. Antennas can, however, be sited on residential lots in a way as to minimize any aesthetic impact.

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#### **For More Information**

For more detailed information concerning Ohio's new antenna law, go to the following webpage:

<http://arrl-ohio.org/prb-1.html>

For information about our national organization, *The American Radio Relay League, Incorporated* contact:



ARRL, the national association for Amateur Radio

American Radio Relay League, Inc.  
225 Main Street  
Newington, CT 06111

Tel: 1-860-594-0200

Or visit the ARRL's website at

<http://arrl.org>

<sup>i</sup> The following material is offered as general information only is not legal advice.

<sup>ii</sup> See 47 C.F.R. § & 97.15(b).

<sup>iii</sup> R.C. § 5502.031

# WEEKLY CLUB NET

Every Wednesday evening at 9:00 PM local time (0100Z), the Wayne Amateur Radio Club sponsors a net on 2 meters using the W8WOO club repeater. The frequency is 147.21+ (PL 88.5). Tom Zilko (N8JBG) handles the check-ins and net activity. It is a general information net and everyone is welcome to participate. Give it a try.

# HAMFESTS

A listing of area hamfests can be found towards the end of “Dales Tales” above.

For details on other upcoming events and hamfests, please visit the WARC web site at [w8woo.com](http://w8woo.com).

# ANYTHING TO ADD?

If you have any announcements that you want to put in a newsletter or you feel inclined to write an article, let me know. You can email me at [K8RMC@arrl.net](mailto:K8RMC@arrl.net) and I'll do my best to get it in writing.