



# TMRA Amateur Radio Beacon

MAY 2017



## Prez Sez

Hamfest 2018 will be March 18, we've asked Owens Community College for a contract, and are waiting to hear from them. All the financials for the 2017 Hamfest are in, and I'll have final details at the meeting on Wednesday May 10<sup>th</sup>. Another reminder, if you didn't see the PBS Nova program "Search for the Super Battery" that was shown as one of the Hamfest forums – the Club has bought the DVD and it's available to members to borrow – I'll bring it to the meeting.

At the May meeting Ron, N8RLH, will have some ideas about organizing some Fox Hunts, and will be looking for input from members. Steve, W8TER, and Glenn, W8MUK, will have more information about TMRA arrangements for Field Day – the weekend of June 24-25<sup>th</sup>. The Nominations Committee will have information on candidates for the election at the June meeting for Officers.

We're a few months away from dues being due (membership year starts July 1<sup>st</sup>), but just a reminder that we changed our dues structure and those 70 and older, who in the past had a complimentary membership, will now have dues at \$5.00/year level, and family members of such a member will be \$2.00/year.

The Coleman 2Kw portable "Ultra 2500 Powermate" generator (non-inverter) that I referred to last month has been serviced by Greg, KG4USQ, - many thanks, Greg. It now starts easily and runs reliably and it's available as a piece of Club equipment for members to borrow for short term loans.

Please be aware that the TMRA Executive Committee no longer meets every month, but only when there is/are agenda item(s) to discuss. At present, we're not planning on having one in May. Meetings are open to all TMRA members.

73, Brian WD8MXR

## ARES News

From Lucas County EC, Skeet, KD8KXD

The LCARES monthly meeting for May has been cancelled. The June meeting will be June 24<sup>th</sup>. It will be held at the TMRA Field Day site at the Wolcott House on River Road in Maumee, Ohio.

A "Big Thank You" to all the Operators who took part in the Glass City Marathon!



**Emergency Paging System:** I am in the process of compiling a list of LCARES members who would be interested in receiving text messages to their cell phones. This method will be used to alert operators of important information such as a disaster call-up, where to tune your radio, and other items as needed. What I need from you is your call sign, cell phone number and your carrier. Send an email to me [KD8KXD@arrl.net](mailto:KD8KXD@arrl.net)

## **Congratulations to New Hams and Upgrades!**

**From Steve, KC8TVW**

Here are the new hams and upgrades: Tech Class: Bryon, KE8GTN; General Class: Jeff, KE8GPN; Extra Class: Toby, KE8CZO.

## **Help Needed**

**From Rick, K8RKS**

We've been asked to help with the Toledo Memorial Day Parade again. It will be on Saturday May 27th and is set to step off at 10:00 A.M. at Summit and Monroe Street. The parade usually lasts a little over an hour.

Please let me know if you'd like to help or need more information at either [k8rks@arrl.net](mailto:k8rks@arrl.net) or [419-471-0573](tel:419-471-0573).

## **Museum Ships Weekend 2017**

Mark your calendars for Museum Ships weekend on June 3 and 4, 2017. We will set up on the SS Col. James E. Schoonmaker in downtown Toledo. Many volunteers are needed to operate and log.

## **Monroe County Hamfest and Computer Show**

**From Fred, KA8EBI**

The Monroe County Hamfest will be Father's Day, June 18, from 7:30 AM to 1:00 PM at the Monroe County Michigan Fair Grounds on Route M-50 at Raisinville Road. The hamfest features free parking, indoor displays, trunk sales, ham gear, computers and equipment, distributors, and hot food.

For information go to <http://www.mcrc.org> or email Fred KA8EBI at [ka8ebi@yahoo.com](mailto:ka8ebi@yahoo.com).

## **Fox Hunts**

Is fox hunting your thing? Not the cute, furry kind, but radio direction finding and transmitter location techniques. Come to the TMRA meeting on May 10 for information and to share your ideas about fox hunts in 2017.

**THE TOLEDO MOBILE RADIO  
ASSOCIATION P.O. BOX 9673,  
TOLEDO, OH  
43697-9673**

President, Brian, WD8MXR;  
Vice-President, Glenn, W8MUK;  
Secretary, Zack, N8ZAK;  
Treasurer, Rich, KD8WCB.

Board Members: Steve, W8TER;  
Skeet, KD8XKD; Tom, KD8WCD;  
Dan, KE8UE; Dave, KD8EVN.

TMRA Home Page  
[www.tmrahamradio.org](http://www.tmrahamradio.org)

Webmasters, Zak, N8ZAK &  
Mike, N8ZLW

TMRA W8HHF Repeaters;  
147.270+, 224.140-, 442.850+  
(TMRA 2 meter, 220, and 440  
repeaters operate with a 103.5  
"PL", or a touch-tone access code  
of 1-2-3)

D-Star Repeater: 442.750  
APRS: 144.390

The TMRA meets at 7:30 PM on  
the second Wednesday of every  
month in

The Electrical Industry Building,  
Lime City Rd. Rossford, Ohio.

## Field Day 2017

By Steve, W8TER

This year I would like all new and old ham operators to understand the real reason behind Field Day.

*In 1933, The June 1933 QST announced that the second Saturday in June, for a period of 27 hours, starting at 4 pm local time, that hams would go into the "field" and set up portable stations.*

*WIBDI F.E. Handy said:*

*"The real object of this contest is to test 'portables' wherever they may be available.... If successful, we want to make it an annual affair."*

*The scoring of that first contest was each QSO with fixed stations will count 1 point, contacts with other portables count 2 points, and DX contacts count 3 points. Multiply QSO points by the total number of ARRL sections, plus countries worked*

*September 1933 QST announced the winner of the 1st Annual Field Day was W4PAW. They made 62 QSOs and had 28 sections for a total of 1876 points.*

*Credit: December 1999 QST*

To put it all together:

"Field day is a volunteer competitive contest to push and perfect the limits of portability and propitiate the annual existence of Field Day." FIELD DAY is an exciting time for ham operators. Launch an antenna. Connect the coax. Tune the rig and start making contacts!!! YE HAH!

As field day chair I have participated in field day for about 18 years. I believe a new approach and outlook towards Field day is something that may benefit the hams who participate in TMRA's field day operation. I have given a great deal of thought to this organizational approach for this year's field day. I believe it should work and I need your cooperation to pull it off. Please help me to work through this as it has not been done before and it will no doubt need adjustment and input from you the members. I'm counting on you to help me make this work and to make the adjustment needed to have this be a well-organized and fun event for all.

Bear with me as we have never worked field day this way before. Thanks for your participation.

[Editor's Note: This year TMRA Field Day will feature a drawing so each participating ham has an equal opportunity to work the popular bands and modes.]

**Remember: Field Day is June 24 and 25, 2017 at the Wolcott House Museum grounds on River Road in Maumee, Ohio. Contact Steve, W8TER, or Glenn, W8MUK, for more information.**

## Tech Committee

By Rob, KV8P

A few updates from the TMRA Technical Committee:

### REPEATER COVERAGE CHANGES:

As many have probably noticed, the coverage of the 147.270 and 442.850 repeaters has changed a bit. On the afternoon of Friday, April 21, the tech committee upgraded the antennas for our 2 primary FM repeaters. The 147.27 repeater is now on a 4-bay phased dipole array and the 442.850 repeater is now using an 8-bay phased dipole array. This activity was rushed due to some antenna issues we were experiencing at the time.

So far, preliminary results show some HT coverage improvements to the West and Southwest for 147.270 and seemingly major coverage improvements (all directions) for the 442.850 repeater. Your individual verifications and comparisons are very welcome!

Big thanks to the work team! Everyone was needed and their expertise made the day run like clock-work! (KD8WCD, KQ6EF, W8MAL, AA8HS, W8TER, KC8UFV and KV8P).



Tech Committee on Parks Tower – KV8P photo

### REPEATER WEATHER RADIO INTEGRATION:

Chrissy, KC8UFV, has been hard at work integrating the WX-1000 weather radio into the master repeater controller (feeding 147.27, 442.85 and 224.14 currently). This radio is now active and will announce weather events on all 3 repeaters when they occur. Right now the weather receiver does announce events for the entire area, which includes counties surrounding Lucas County. (Please keep that in mind.) We may narrow the focus of the weather receiver (for area and content) down the road, based on feedback. This weather receiver will be disabled during Skywarn nets, so be sure to listen to net control for updates during those nets.

### SOME CURRENT ACTIVITIES

We just finished the prep work for 2 other projects and are working on some scheduling at the moment.

**Project 1:** First is the placement of the 2 meter Stationmaster antenna on top of our Downtown location for use on the 147.27 remote east link receiver. This antenna should work well in simplex receive and work to considerably expand the receive area from that remote link receiver. We also plan to raise and place a second dipole array (donated by Norm Bash, WA8COB, in Port Clinton recently, so please thank him at the next general meeting) on the Yaesu Fusion Wires-X repeater (146.835). Timing of that antenna work is TBD at the moment.

**Project 2:** The second project is the upgrade of the Wires-X computer. We currently have a faster computer rebuilt and ready to deploy (which won't be as susceptible to heat at the location). This computer will likely be in place by the time the newsletter is issued.

**Project 3:** We have been experiencing some noise (from the 440 amplifier fans) on both the 442.850 and 224.14 repeaters, which we intend to resolve very soon. We did add some ferrite beads a few weeks back which did help considerably. However, some additional will be done to mechanically isolate the fans from the amplifier and eliminate the noise.

UPDATE:

The Yaesu Wires-X repeater (146.835) is getting a tremendous amount of local use and we have been receiving some great reports. If you haven't tried the Fusion repeater yet, remember, you can talk to anyone you can hear. No special tweaking or settings required, unlike many other digital modes. The conversations with some of the overseas hams are very interesting.

More next month.

## **Some Fun Facts About Repeaters** **By Rob, KV8P**

1. Many/most repeaters use duplexers which are really a combination of filters that allow us to receive and transmit on one single antenna (full duplex). If you can get enough physical separation between antennas and the receive and transmit signals are far enough apart (in frequency), you don't need a duplexer. Duplexers are very lossy. It is very common to lose up to 1/4 of the transmit signal and receive sensitivity, just in duplexer losses (called insertion loss). However, it is usually a necessary evil and **gives** you the benefits of the high antenna on both rx and tx. :)

2. Systems that run in full duplex cannot use all of the types of coax that you might use at your home station. Dissimilar metals in coax like LMR-400 can cause major receiver noise in duplex systems due to the micro arcing that occurs between these dissimilar metals. Repeaters mostly use double-shielded coax (like RG-214) or solid shielded heliax to ensure single metals and eliminate noise from getting to the center conductor.

3. Repeater sites are very RF noisy environments. Most common receivers cannot typically handle the high RF environments without some additional filtering. Receivers made for repeaters often have pre-selector filters built right into them (to give them a head-start). On other non-duplex systems, we often install pre-selector filters to filter out other transmitters and intermodulation signals (created by the mixing of signals at a repeater site), as well, so that the repeater can continue to hear the needed signals.



The ground crew at work.

– KV8P photo

4. Band- pass filters and/or duplexers are almost always used on transmitters at repeater sites (on simplex systems as well as duplex, discussed above). This helps protect other systems on the repeater site from any spurious emissions that any single transmitter puts out (no transmitter is perfect when it comes to unintended emissions), and helps to keep other unwanted signals out. Intermodulation (commonly called intermod at repeater sites) is often generated within unprotected transmitters via incoming signals mixing with the local/wanted transmitted signal. (The result is intermodulation that impacts other receivers at repeater sites if not protected).
5. Antenna gain matters in Ohio. We are fortunate here in Ohio (although most would say, unfortunate for ham radio) to have very flat terrain. In mountainous regions, you really can't use high gain collinear based antennas on repeaters effectively because the antenna pattern is **too** tight that it won't transmit and receive much signal down in the valleys. Here in Ohio? No problem (for the most part). Phased dipole arrays will always provide a wider pattern that covers into valleys better close to repeater sites.
6. Service Monitors are used to do much of the heavy lifting with tuning up and maintaining a repeater and their components. A good service monitor, while usually one of the more costly pieces of radio gear, is worth its weight in gold for repeater work. Service monitors often have a tracking generator in them that allows us to sweep the frequency across duplexers (and other filters) so that we can watch the resulting signal coming through it on the spectrum analyzer (and how it differs based on frequency). It really is a necessary tool for most repeater work.
7. Where is that noise coming from on the repeater? (Good question.) We have to remember that many things can cause noise (not just transmitters). At sites like TMRA has (which are facilities, not towers), as good as they are, we do have to concern ourselves with all of the electrical activities going on "down below". Rogue noises from plasma televisions, blenders, microwaves (mine is horrible!), etc. can all cause RF noise that impacts our repeaters at times. A noise with a repeating noise pattern is often due to an air compressor or similar device at these sites due to someone working close-by. Those issues go away, eventually, all on their own. Our duplexers do a good job filtering out many things, but not everything. When a signal raises the entire noise floor at a site, we can be impacted (albeit for a short time, typically).

## **Dale's Tales**

**By Dale Williams, WA8EFK, Director, Great Lakes Division**

Here is the current Great Lakes Division ARRL Sanctioned Hamfest Schedule covering the next few weeks. These swaps have received their sanctioning approval from ARRL HQ at the time of this publication. We have approximately 65 ARRL hamfests each year in the Division. I do encourage each Hamfest Chair to register early for ARRL Sanctioning. Be sure to invite your ARRL Officials as soon as your date is set.

May 6 - Cadillac Hamfest - Cadillac, MI  
May 13 - Ashland Hamfest - Ashland, KY  
May 19, 20 & 21 - Dayton Hamvention - Xenia, OH  
Jun 3 - IRA Hamfest - Hudsonville, MI  
Jun 3 - Fulton County - Tedrow, OH  
Jun 3 - Princeton Hamfest - Princeton, KY  
Jun 4 - Chelsea Hamfest - Chelsea, MI  
Jun 10 - Luce County - Newberry, MI  
Jun 10 - Union County - Marysville, OH  
Jun 17 - Milford Hamfest - Milford, OH

Jun 18 - Monroe Hamfest - Monroe, MI  
 Jun 24 & 25 - FIELD DAY  
 Jul 8 - GARS Hamfest - Germantown, OH  
 Jul 9 - 20/9 Tailgate - Austintown, OH  
 Jul 16 - Van Wert Hamfest - Van Wert, OH  
 Jul 22 - Harrison Hamfest - Harrison, MI  
 Jul 22 - GMARC Tailgate - Shelby Twp, MI  
 Jul 22 - Big Sandy Hamfest - Louisa, KY  
 Jul 29 - CMARC Outdoor Hamfest - Lansing, MI  
 Jul 30 - Portage Hamfest - Ravenna, OH

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(Editor's Note: Dale's Tales was edited to fit the space available.)

## Did You Know?

- The **Lucas County ARES Informational Net** is every Sunday at 7:30 pm on 147.270.
- The **TMRA Newcomers and Elmers Net** is every Sunday at 8:00 pm on 147.270.
- The **Tech Committee** meets the second Monday of each month at Maumee Fire Station #2 on Dussel Drive (in front of the water tower).
- The **TMRA general meeting** is the second Wednesday of each month at the Electrical Industry Building, Lime City Rd., Rossford, Ohio.
- The **Six Meter Net** meets every Wednesday and Thursday at 9:00 PM (EST).
- The **Lucas County Siren Net** is the first Friday of each month from 10:30 to 11:30 AM on 147.270 + W/103.5 PL and 442.850 + W/103.5 PL.
- The **Lucas County Hospital Net** is the first Saturday of every other month at 10:00 AM.
- The **NORC Net** is the first Saturday of each month. This net typically meets at 11:00 AM on or around +/- 7.200 MHz LSB.
- **ARES** meets the fourth Saturday of each month at St. Luke's Hospital, 5901 Monclova Road, in Maumee, Ohio, at 9:00 AM. Note: the May ARES meeting is cancelled. In June, ARES will meet at the Field Day site at the Wolcott House in Maumee.
- **VE testing** is each month. Contact Steve, KC8TVW at 419-467-3734 or [kc8tvw@arrl.net](mailto:kc8tvw@arrl.net).
- **Ottawa County ARC** is looking for someone to paint their 80-foot tower. Email [k8vxh@yahoo.com](mailto:k8vxh@yahoo.com) or call Mike at 419-913-0207 if you are interested.
- **Hamvention®** will be held May 19, 20 and 21, 2017 at the Greene County Fairgrounds and Expo Center. The TMRA bus travels on Saturday, May 20.
- **Museum Ships Weekend** is June 3 and 4, 2017.
- **Field Day** is June 24 and 25, 2017.
- **Great Lakes HamCon @Michigan International Speedway** is October 7&8, 2017
- The calendar at the **TMRA website** lists numerous ham radio activities each month.

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