

# TMRA Amateur Radio Beacon August 2021



## From the Prez, Steve W8TER

Currently the Toledo Mobile Radio Assn. (TMRA) 147.270 repeater has just come back on the air.

The (TMRA) 442.850 (PL 103.5) repeater has been functioning and could quite easily be used as a backup.

What would you do if there was an emergency and there was a loss of power in the area? Not all repeaters would function and those that did may be on gasoline generators or battery backup like the TMRA 442,850.

Without electricity it would be difficult to get gasoline from the gas station and batteries would soon be depleted.

Power sources would be at a premium No Gas... limited in power sources... Not everyone has natural gas backup generators at their disposal; nor solar panels.

This is just one of many topics for the TMRA Q&A Net.

This is just one of the purposes why we have the Amateur Radio Service. Being prepared or at least knowledgeable enough to obtain communication when there is little or no power sources.

If you were to respond to provide emergency communications, make sure you do not become part of the problem. Be prepared to take care of yourself so that others do not have to.

If you search the internet you will find lists of items to drop into your Grab & Go bag. These lists are useful when deciding what you may actually need while deployed. I suggest you check them out.

73,

Steve/W8TER

Toledo Mobile Radio Association

Minutes of General Meeting

July 14, 2021

President Steve, W8TER called the meeting to order at 6:58 PM at the Electrical Industries Building in Rossford, Ohio. The meeting began with the Pledge of Allegiance.

<u>Roll Call</u>: There was one guest, Andy, KE8RKZ, and 29 members. Each person present introduced himself by first name and call sign.

<u>President's Report</u>:, Steve, W8TER, made corrections to the meeting agenda. He announced that TMRA will have an exhibit at the Lucas County Fair and needs volunteers for booth duty. Volunteers will talk to fair-goers about TMRA and amateur radio. Volunteers will have to buy an entry ticker to the fair. We still need candidates for Bursar and Secretary.

<u>Treasurer's Report</u>: Given by Rich, KE8IJV. The report was accepted by general vote.

Mike, WA8SYD, reported that the rent for the meeting hall is paid through October 2021. The landlord will adjust the date of our annual payment to coincide with TMRA's fiscal year.

<u>Budget:</u> Rich, KE8IJV, read the proposed budget for 2021-2022. Brian, WD8MXR, suggested modifying the proposed budget by moving \$3,000 from the Hamfest budget to the Tech Committee budget for maintenance and repairs. Dan, KE8UE, Chairman of the Tech Committee accepted this modification, which met with no objection from the members present. The members voted to accept the budget as modified.

<u>Trustee Election</u>: Dave, KD8EVN, was the nominee forwarded by the Executive Committee for the open position on the Board of Trustees. Dave was elected by acclamation in a general vote of the members.

<u>Hamfest 2022</u>: Brian, WD8MXR, reported that Owens Community College is preparing a contract for us for 2022. Brian has contacted two possible food vendors and a brief open discussion followed about food at the hamfest. Brian reminded us that the short-throw projector is still missing.

<u>Tech Committee</u>: Dane, KE8UE, reported that the Tech Committee met in-person. The damaged two-meter repeater was replaced with a used unit that cost \$700.00. Midport reviewed the used unit and said it was fine; although, some audio adjustments are still needed. It is now running. The 440 machine was repaired for \$1,700.00. It is linked and running. The link from the PNC Building to Parks Tower is still down and is on the list of work to be done. Dan reported on the WinLink and D-Star units. The Tech Committee is discussing purchasing a Fusion unit as a backup for the 2-meter and 440 repeaters.

<u>Vice President</u>: Glenn, W8MUK, had nothing to report.

<u>Newsletter and Membership</u>: Bruce, AA8HS, thanked all those who sent pictures and jokes for the newsletter. TMRA has 71 paid members.

#### Old Business:

<u>Field Day</u>: Ron, N8RLH, reported that the weather did not cooperate with set-up on Friday and we had to do set-up on Saturday morning. Our designator was 3A, and we operated on 80, 40, 20, and 2 meters. Even though operations were kept simple, we still scored 596 points. The dinner Saturday afternoon was a great success thanks to Rich, KD8WCB.

Dave, KD8EVN, suggested that TMRA send a "thank you" letter and 503(c) tax donation form to Gary, K8ONZ for his generous donation of an Ameritron amplifier and power supply. Steve, W8TER, said he will take care of it.

Dave, KD8EVN announced he has free Power-Pole polarity tester kits with him for anyone who would like one.

#### New Business:

<u>Dayton Bus 2022</u>: Dave, WA2DHG, announced that he lined up a bus to take us to the Hamvention in May next year. The bus will cost TMRA \$1,650.00.

<u>ARES</u>: TIM, KD8IZU, announced the ARES meeting will be in-person at the 911 Training Center in Toledo on July 24. He reported on ARES activities and said help will be needed for the Sylvania Super Kids race and the Sylvania Triathlon.

The meeting was adjourned at 8:28 PM.

# TMRA MEMBERSHIP

If you have not already renewed, TMRA memberships for the current year have already expired on June 30<sup>th</sup>! Becoming a member of TMRA shows your support for the club and is now the only source of income for the club. For certain club activities, membership is required for insurance coverage. The fastest, easier way to renew is through Paypal at <a href="https://www.tmrahamradio.org/store">www.tmrahamradio.org/store</a>

You can charge a one time payment with a credit card for a very small fee if you do not already have a Paypal account.



## ARES News From Tim, KD8IZU boxcar@toast.net.

Please always keep in touch through ARES in Brief Net on Sunday Nights at 7:30 or the ARES IO Group. If you have questions, you can contact Tim KD8IZU

There is an app on the IO Group to renew your Lucas County ARES Membership, this app will also allow you to sign you up for ARES alerts and get info to get state ID when there is an emergency deployment. Please fill it out so we can keep our records up to date if you are a Lucas County ARES Member.

If you go to the Ohio Section newsletter at ARRL-Ohio.org under Skywarn there are several sites listed for Skywarn Spotter Training.

The Lucas County Siren Net is always the first Friday of the month, we run a net on the 147.270 repeater starting around 11:45 a.m. with the sirens going off at noon.

The Lucas County ARES Meeting is held on the fourth Saturday of month. The ARES in Brief Net is ran on Sunday nights at 7:30 P.M. on the 146.940 repeater and on the fourth Sunday of the month 147.270 repeater. This Net is where ARES puts out their announcements and your chance to enter your voice.

KD8IZU has issue a fund raising challenge, "Donate your spare change to LCARES". Contact Tim KD8IZU for details.

# From Ships on the Air

### Dave KD8EVN

# James M. Schoonmaker K8E Special Event best DX QSL Card HB9BQR Solothurn, Switzerland 4,252 miles Contact mode CW made by Rob Harbaugh NA8Q



HE	39BQR	∀ia:	K8	E
I am pleased to confirm a radio contact. I hope to meet you again. Your QSL will be most welcome (no E-QSLs). I am collector of ship QSLs and navy related QSLs.		To:		
		Date:	6.6	. 2021
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SDRTRUNK -- The Best Software for Scanner Users

Bruce AA8HS, editor

SDRTRUNK is a free software product for Windows, Mac, and Linux that allows you to listen to ham DMR as well as Police and Fire communications using inexpensive RTL-SDR dongles. Some of its features and performance are better than scanners costing hundreds of dollars. The price of Uniden and Whistler scanners has ben going up which makes this software even more attractive.

#### TRUNKING

Trunking has been using as a communication mode for decades. When a system is trunked, there are multiple frequencies that are available for use by various types of employees such as maintenance, housekeeping, administration, police, fire, or others. But since there are a limited number of frequencies and many different types of employees, a computerized system is in place to keep one group from hearing the communications (conversations) of others. Talkgroups (TG's) are assigned to different types of users just as in ham radio DMR. For instance, in the old Toledo Zoo LTR system, when a maintenance worker pushed the transmit button, a computer sent an inaudible code to all radios putting the worker on one of six frequencies and telling other radios to stay off that frequency. Other systems, such as our Northwest Ohio Regional Public Safety System or the Futronics commercial DMR system have a dedicated control frequency that does nothing but tell talkgroups which frequencies to use.

#### **Software Defined Radio (SDR)**

SDR's are becoming more and more popular. Instead of using coils, IF transformers, and crystal filters, radio signals are converted to digital data that can be processed in a variety of ways by microprocessors. Popular ham radios that have SDR's as their receivers include the Icom IC-7300 and units such as the SDR Play are stand alone wide band receivers that use USB ports on the computers. To put it simply, with an SDR receiver, most of the work is done by the computer. There are a ton of SDR products on the market and many of these are used by ham that receive WSPR data on all HF ham bands. Other SDR's can be controlled remotely by anyone to listen to ham or other short wave communication from all over the world.

#### **RTL-SDR** dongles

These items have been around for a long time and are based upon DVB-T TV tuners that are used in Europe. They are very flexible, inexpensive, and cover a broad range of frequencies: from 500 Khz to 1700 Mhz. They are most often used, however, the in the VHF and UHF ranges. They typically have a female SMA connector on one end and a USB type A male connector on the other. You can buy them as kits with simple antennas and from a variety of manufacturers. It is usually best to buy one with 1 part per million accuracy or better. I prefer to use an USB male to female extension cable or some other way to get the dongle away from the PC or laptop to minimize noise. NOOELEC is one of the best manufacturers. The specification for these dongles is RTL2832U and R820T2 so make certain that the one you buy has these specifications. Other tuners may not be supported and that would involve some coding work so just stick with these for now.





These items are not, however, the most sensitive or selective receivers. You need either a strong signal for an indoor antenna or an outdoor antenna, maybe with a signal amplifier mounted as close as possible to the antenna. Using a one foot piece of wire as an antenna, you can hear local FM broadcast stations or NOAA weather on 162.50. Any male SMA antenna for the 2 meter or 440 band should suffice for NWORPSS. You can also strip ¼ inch of insulation from a garbage tie to use as antenna and tape it in place. With a good antenna, local ham repeaters can be heard. There are so many towers in the NWORPSS or MARCS system that signal strength should not be a problem.



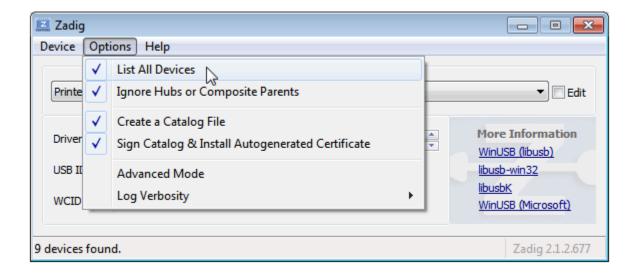


#### Software for RTL-SDR's

The most popular software for these dongles are SDR sharp (distributed by Airspy), HDSDR, and SDR Console. These free products are always in development and improving. Before you can get these dongles working in Windows or Linux and for SDRTRUNK, you need to install the driver for them. The WINUSB (Windows) driver is installed with a program called Zadig:

#### https://zadig.akeo.ie/#

After connecting your dongle, use the program Zadig to change from the bulk 0 driver to the correct one. Right click and run Zadig as an administrator. In Zadig, under options, list all devices. Choose one if the Bulk In interface (interface 0) items, this is your dongle. Then click in the light blue area to install or reinstall the driver, the WinUSB one. This can take some time. This will wong for both dongles.



For Linux, the driver is installed through the terminal.

```
sudo apt-get install cmake build-essential libusb-1.0-0-dev cd ~ git clone git://git.osmocom.org/rtl-sdr.git cd rtl-sdr mkdir build cd build cmake ../ -DINSTALL_UDEV_RULES=ON -DDETACH_KERNEL_DRIVER=ON make sudo make install sudo ldconfig
```

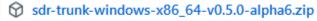
Git should already be installed in your Linux system but it is easy to install. The above driver install worked fine on Debian forks such as Ubuntu, Linux Mint, and POP OS.

#### **SDRTRUNK**

Before even going to this site for the software, I recommend that you first watch this Youtube video: <a href="https://www.youtube.com/watch?v=jy\_INdGBTM0&t=639s">https://www.youtube.com/watch?v=jy\_INdGBTM0&t=639s</a>

and others videos in his series that follow on YouTube. If you are a subscriber to RadioReference (\$15 / 6 months), your life will be much easier.

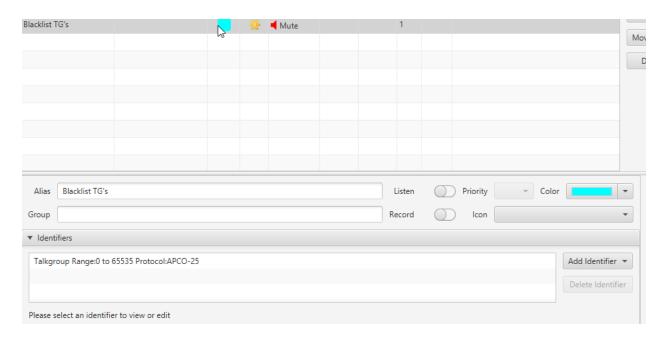
Now create a folder in Windows and unzip the



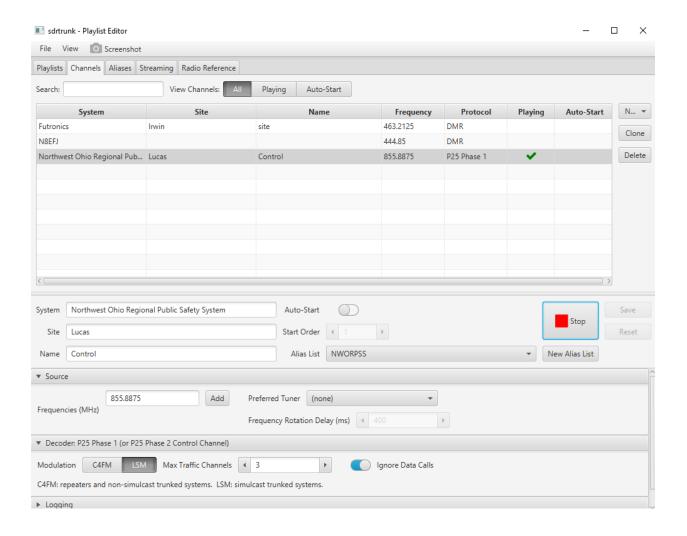
file from the assets into that folder. Make certain to plug in your USB dongles and connect some sort of antenna to them. One dongle will work but two is better. Within that folder, you will find a folder maned bin and within that folder a file named sdr-trunk.bat. You may not see the .bat extension if you have Windows extensions hidden (Control Panel> File Explorer Options > View) so just try both files to start the program by right-clicking and opening. Then wait a minute. The Windows terminal (dos box) will open to run the batch file and you should see the program soon, You should see a waterfall and no message about right clicking to choose a tuner. If no tuners, are found, either the tuners are not connected or the driver install needs to be repeated through Zadig after a reboot.

For Linux, at least two tuners are absolutely needed. Although a four- in- one powered or unpowered external USB hub worked for connecting the dongles in Windows, it did not in Linux so I connected the USB extension cables directly to the PC.

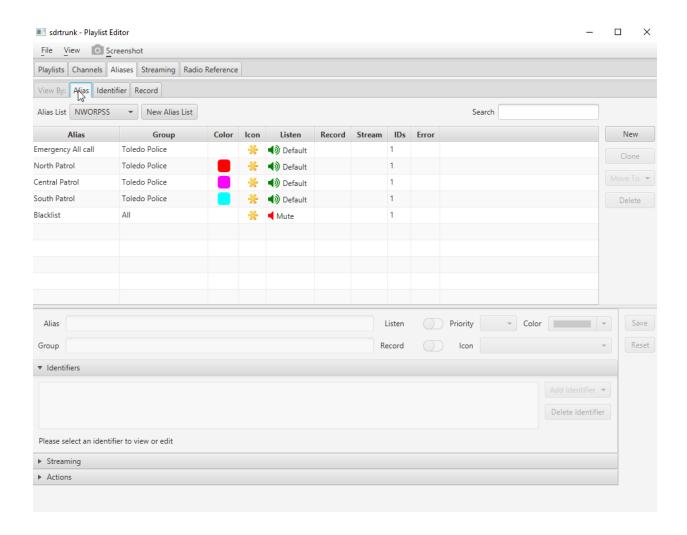
In the first video, Nate forgets to mention that you need a new alias which is muted (*listen* slider to the left) for TG's 0-65535 as below:



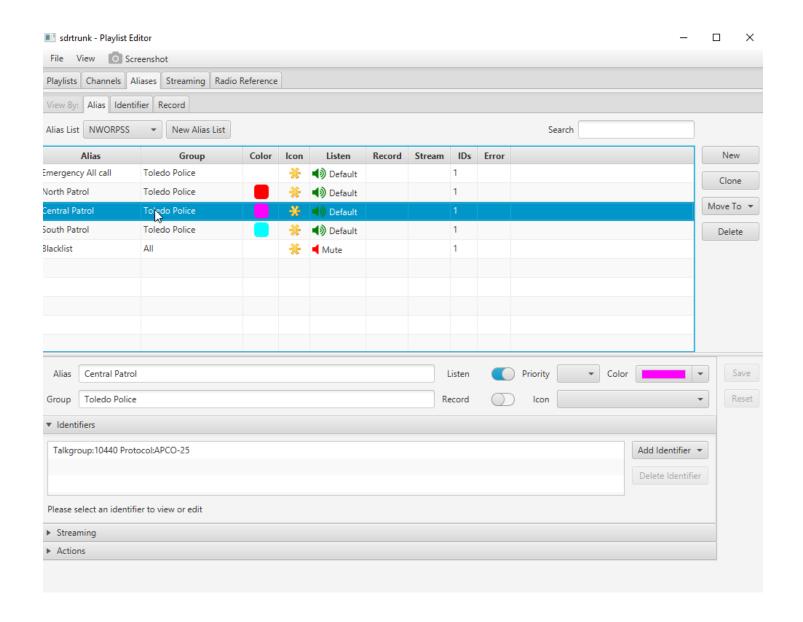
This trick makes certain that you do not hear the hundreds of TG's out there on NWORPSS. Just add the ones that interest you. The Police Central (10440) and South (10448) are the busiest ones.

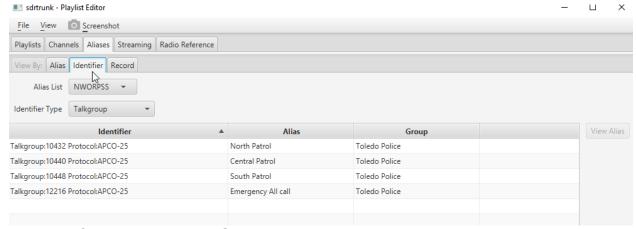


Be certain be fill some text in all fields in system, site, and name. Make certain that the alias list matches the system. For Lucas County, the modulation (lower left corner) is LSM. For MARCS and Wood County, it is C4FM (like ham radio Fusion).



Alias tab. Click on each alias to show the details or change items.



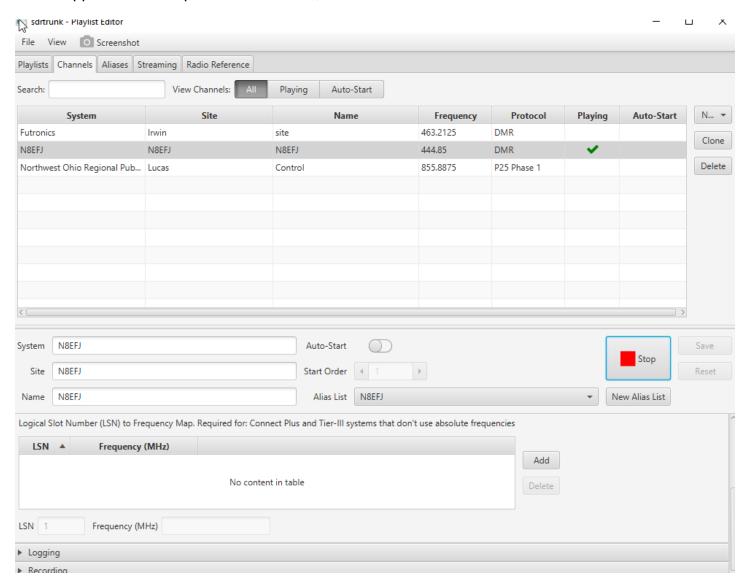


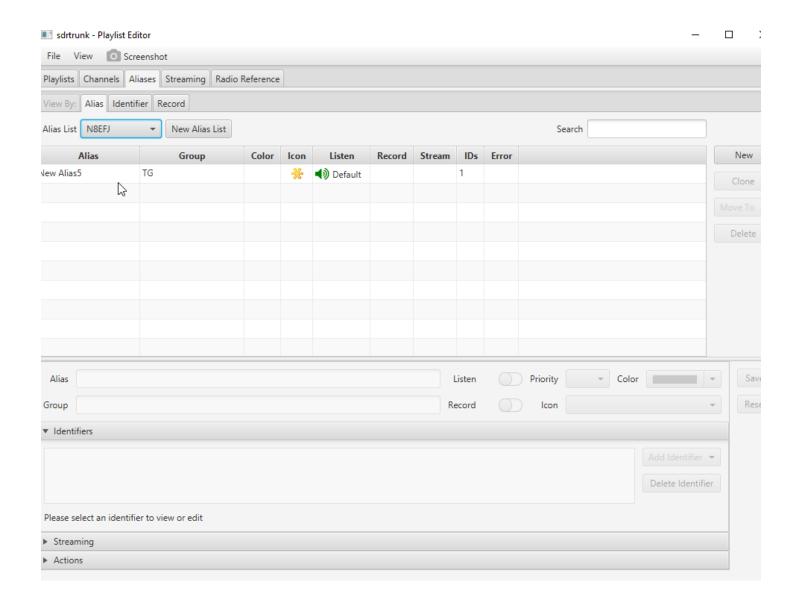
The identifier tab shows the TG's.

#### The N8EFJ DMR Repeater

If you want to listen to the N8EFJ repeater, recall that it is open all the time for local communications but it must be activated for all other TG's by transmitting and identifying. This allows the repeater to connect to other TG's like the very active TG 91. If no one transmits within about 10 minutes, the connection is lost. But it hams are talking, any TG is use will be heard. To set up N8EFJ's DMR repeater, the new system should be DMR and labelled N8EFJ, The YouTube video basically pertains to trunked DMR, so you can ignore it. The alias list should be set up as shown below and the N8EFJ alias show in the N8EFJ system page when the channels tab is chosen.

On the alias page, just set up one new alias (new alias 5) in my example. Don't add any TG's or it will not work! When you return to the channels page, the play button should work and then a red stop button appear. If the stop button isn't there, a field has not been filled in.





I also was able to program the trunked Futronics system using the Radio Reference tab (I am a subscriber) but both N8EFJ and Futronics require strong signals to be heard consistently. Their output powers are much less than that of the NWORPSS. With an outdoor antenna and a Radio Shack preamplifier, N8EFJ and all three Futronics towers in the area are very clear. I feed the coax after the power source (bias T) to a TV antenna splitter or TV distribution amplifier to connect to the dongles and other receive only radios.

Good luck!



# RadioShack Inline Antenna Signal Amplifier

★★★☆☆ ~ 67

\$2900 \$35.00

Get it Mon, Aug 9 - Tue, Aug 10 \$4.99 shipping



## RadioShack 4-Way 3GHz Cable Distribution Ampli

★★★☆~ 23

\$3599

✓prime FREE Delivery Thu, Aug 5
Only 5 left in stock - order soon.

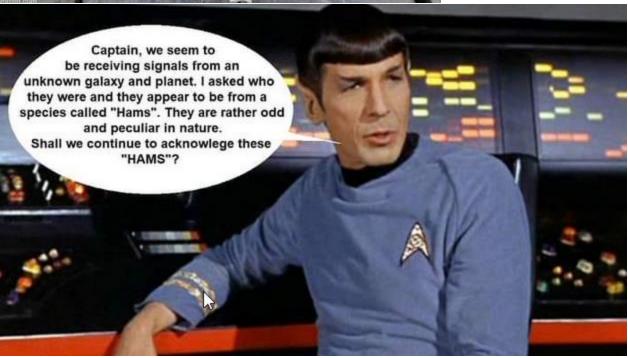
More Buying Choices \$32.82 (5 used & new offers)

https://www.youtube.com/watch?v=ZPt9ct4IEYE&t=328s

# Ham Radio Humor









# **Dale's Tales**

Greetings, welcome to "Dale's Tales" for August, 2021.

Our ARRL Board of Directors met in July. With the forthcoming retirement of Treasurer, Rick Niswander K7GM, who has managed the League's investment portfolio for the past nine years, the Investment Management Committee has been examining the options for the future management of these funds. The Board elected to create a permanent committee and proceed with a program to evaluate investment management firms to handle these funds, and the board will also start a search for a replacement Treasurer. It is expected to have these plans largely in place in early 2022.

As I had mentioned in last month's Dales Tales, the Board was also expected to consider a proposal for adding of a new Standing Committee, specifically to assist and grow our Field Organization. That motion was passed, creating the new "Emergency Management-Field Services Committee". The purpose is to focus on the Amateur Radio Emergency Service, The National Traffic System, Government Liaisons, Public Relations, Technical Advisors, and working with ARRL Affiliated Radio

Clubs. This is clearly going to provided needed support for the ARRL Field Organization teams led by our Section managers.

The Programs and Services Committee, will now concentrate on the DXCC program, LoTW and contesting. We now have four Standing Committees; Administrations and Finance, Programs and Services, Emergency Management-Field Services Committee and the Executive Committee. There are several other committees that serve as sub-committees to these four.

The ARRL Board also made several awards, one of which honors a member of our Great Lakes Division:

Moved by Director Williams, Second by Director Norris:

The 2021 Phil McGann Silver Antenna Award

WHEREAS, Amateur radio has many facets which are of interest to the public in the areas of radiosport, emergency communications, and experimentation/do-it-yourself (DIY), and

WHEREAS, ARRL particularly appreciates a Public Information Officer who successfully promotes all aspects of amateur radio so officials as well as the public at large can better understand the many contributions amateur radio makes to education, public safety, and recreation, and

WHEREAS, John Levo, W8KIW, of Hillsboro, Ohio, exemplifies the skills and depth of understanding to convey to media outlets the fascinating world of amateur radio through his encouragement for media to

cover stories about the exciting world of amateur radio and how you can "talk around the world" from any location; demonstrating how emergency communications during times of adversity can be set up quickly and effectively; demonstrating the importance of ARRL Field Day as an annual event to help operators enhance their skills in emergency operations; and teaching those newly interested, getting them licensed, and then mentoring them to become the next generation of amateurs, and

WHEREAS, John Levo, W8KIW, has demonstrated a body of work over time that captures the many avenues of opportunities of amateur radio as a hobby, an education tool, and a service for public safety,

THEREFORE, the ARRL Board of Directors, with the recommendation of the Public Relations Committee and the concurrence of the Programs and Services Committee, does hereby bestow the 2021 ARRL Philip J. McGan Memorial Silver Antenna Award to John Levo, W8KIW.

#### CONGRATULATIONS JOHN!

GREAT LAKES CONVENTION UPDATE: Mark the Date, October 2, 2021, at Knicely Center in Bowling Green, KY. We'll soon publish Special Editions of Dale's Tales with the forum schedules. David Minster NA2AA, ARRL CEO will be the guest speaker at our formal luncheon at 1:00PM.

We will also be presenting our Division Newsletter Awards and the ARRL's Phil McGan award. Following the luncheon, we will hold an initiation for the Royal Order of the Wouff Hong, noting that our ARRL CEO David, NA2AA will at that time be among those initiated into the Order. You do not want to miss this!

SCOTT'S STUFF: Comments from your ARRL Vice Director Scott, N8SY.

Wow, have the hamfests really picked up! It seems that everyone is in the mood to get out to a swap and just see everyone else again. The Field Service Working Group that I'm on has been working hard at getting those items that the Section Managers have said is of concern to them fixed, improved or started. Regular meetings with the Section Managers are on the top of the list and have been happening on a regular basis now with more changes and improvements on the horizon.

Work on the Great Lakes Division Convention coming up on October 2nd is continuing. Will you be there? As that it is only a couple of months away, you'll want to make sure that this event gets on your calendars now. We want everyone in the Great Lakes Division to come out and have a blast with us.

For those newsletter editors in Kentucky and Michigan, we will be presenting the Joseph Phillips, K8QOE, Newsletter Award at the Convention, and if you want your newsletter to be in the running you need to get copies of your newsletter to your Section Manager now. The Ohio Section has its newsletter winners already selected and they will be announced at the Columbus Hamfest on August 7th.

The best newsletter from each of the 3 Sections (Michigan, Kentucky and Ohio) will be chosen by their respective Section Leaderships to compete for this very prestigious award.

We want every club in the Great Lakes Division to be able to participate for this award. So, if you are producing a newsletter, be sure to send a copy of it to your Section Manager. He'll take it from there.

That is going to do it from here this month. So, "GOTA" and have FUN!!

--73, Scott Yonally N8SY, Vice Director, Great Lakes Division

#### HAMFESTING:

Here is the current listing of Great Lakes Division ARRL Sanctioned hamfests for 2021. Please note that all are subject to change, so please stay current by checking the sponsoring club's web page before making your travel arrangements. Be sure to invite your ARRL Officials as soon as your date is set. If you club plans to request ARRL Hamfest Sanctioning, they should do so well in advance of the planned Hamfest date, as this allows adequate time for QST Listings. QST announcements require a 3 month lead time. If a swap is cancelled or the date is going to change, please notify ARRL HQ.

2021 Great Lakes Div. ARRL Sanctioned Hamfest calendar. Please feel free to reproduce and publish in your local Club Newsletter, with credit to the source.

08/07/2021 - Columbus Hamfest, Columbus, OH

08/07/2021 - MOVARC Hamfest, Bidwell, OH

08/15/2021 - WARA Tailgate Swap. Warren, OH

08/21/2021 - GMARC Trunkfest, Shelby Twp, MI

08/22/2021 - Athens Trunkfest, Athens, OH

08/28/2021 - Cincinnati Hamfest/Ohio Conference, Cincinnati, OH

08/29/2021 - Seaway Trunk Swap, Port Huron, MI

09/11/2021 - Greater Louisville, Shepherdsville, KY

09/11/2021 - GRAHamfest, Grand Rapids, MI

09/12/2021 - Findlay Hamfest, Findlay, OH

09/18/2021 - Cadillac Hamfest, Cadillac, MI

09/18/2021 - Richmond Hamfest, Richmond, KY

09/18/2021 - GMARC Trunkfest, Shelby Twp, MI

09/18/2021 - CMARC Hamfest, Okemos, MI

09/18/2021 - Mound ARA Swapmeet, Miamisburg, OH

09/18/2021 - Miami Co Swap Meet, Troy, OH

09/19/2021 - Adrian Hamfest, Adrian, MI

09/25/2021 - Paintsville Hamfest, Paintsville, KY

09/26/2021 - Cleveland Hamfest, Berea, OH

10/02/2021 - VetteCity/Great Lakes Convention, Bowling Green, KY

10/16/2021 - Muskegon Color Tour Swap, Muskegon, MI

10/24/2021 - USECA Hamfest, Madison Hgts, MI

10/31/2021 - Massillon Swap, Massillon, OH

11/06/2021 - Grant ARC Hamfest, Georgetown, OH

12/04/2021 - Fulton Co Winterfest, Delta, OH

12/05/2021 - L'anse Creuse Swap, Madison Hgts, MI

For the latest detail on regional hamfests, check the ARRL web page at: <a href="http://www.arrl.org/hamfests-and-conventions-calendar">http://www.arrl.org/hamfests-and-conventions-calendar</a>.

73, Stay safe. Light up those bands!

Dale Williams WA8EFK Director Great Lakes Division wa8efk@arrl.org -----

ARRL Great Lakes Division

Director: Dale R Williams, WA8EFK

wa8efk@arrl.org

# Did you know?

- The Lucas County ARES Informational Net is every Sunday at 7:30 pm on 147.270.
- The social net is every Sunday at 8:00 pm on 147.270.
- The **FLDigi Net** meets every Tuesday night at 7:30 PM at 147.27 MHz
- **Six Meter Nets** meet every Wednesday and Thursday at 9:00 PM (EST). The Thursday night Net is on 50.255 USB. For more information contact Dan, KE8UE, at <u>dlcunn@sbcglobal.net</u>. The Monday night 6 meter Net is at 9 PM on the TMRA 6 meter repeater.
- 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 the even numbered months 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.

•

- Ron, N8RLH, has ham gear from the estates of silent keys. Contact: 419-345-6382 or <a href="mailto:rlhornbeck@att.net">rlhornbeck@att.net</a>.
- The **TMRA apparel store** is now open. Contact Gold Medal Ideas at <a href="http://www.goldmedalideas.com/tmra">http://www.goldmedalideas.com/tmra</a>.
- The calendar at the **TMRA website**, **www.tmrahamradio.org**, lists numerous ham radio activities each month.
- TMRA has a **Facebook** page and an **Instagram** page, which can be accessed from an icon on the TMRA website or at https://www.instagram.com/tmrahamradio/.
- Don't forget to select TMRA as your Organization of choice for *Kroger Cares* and *Amazon Smile*. This results in a donation to the club as a portion of your purchase. Instead of typing in the URL <a href="https://www.amazon.com">www.amazon.com</a>, you must use smile.amazon.com.
- There is a 900 Mhz net Saturday nights at 9 pm on the TMRA 900 Mhz repeater.
- There is a simplex two meter net on 144.22 Mhz USB Friday nights at 8 pm.

Editor's Note: Beginning with the February 2019 issue, The Beacon will no longer produce a print version for mailing. The Beacon understands this change may inconvenience some club members and regrets that it is necessary.

You may contact the Editor of *The Beacon* by emailing to: AA8HS@ arrl.net or writing to:

**Bruce, AA8HS** 

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