



TMRA Amateur Radio Beacon

November 2021



From the Prez, Steve W8TER

Toledo Mobile Radio Association
Minutes of General Meeting
October 13, 2021



Call to Order: President Steve, W8TER called the meeting to order at 7:05PM Started with Pledge of allegiance 7:00 PM at the Electrical Industries Building in Rossford, Ohio. The meeting began with the Pledge of Allegiance.

Roll Call: Introductions. Welcomed Shane, KE8WOW and Scott as guests. We have 86 members.

Minutes: There was a motion to suspend the reading of the minutes from KC8TVW and seconded by WA8SYD. Motion carried.

Treasurer's Report: Prepared by Rich, KE8IJV and read by Brian, WD8MXR. Motion to accept the Treasurers report by WA8SYD seconded by K8FKH Motion carried.

President's Report: Steve, W8TER. Still in need of someone to take over Secretary Position, Treasurer Position and Bursar position. Also asked for those with account experience to consider filling these positions.

Tech Committee: Tech committee met on Monday 11 October. Discussed audio on 147.270. The 53.110 was performing well. Siren Net was mentioned.

Education: KC8TVW. There have been no requests for testing or education in several months. Testing appears to be mainly online. There are currently no CW classes.

Grab and Go Committee: Brian is ready to purchase Go box to be used as a learning tool.

ARES / RACES: Lucas County ARES General meeting is October 23, 2021 at 9:00 am. 911 Training Center 2127 Jefferson Ave Toledo, Ohio 43604 Topics What the SET was supposed to be about and Go Kits.

Winter Field Day: KE8OTF is looking into library use.

Christmas Party: Not sure if we will have one. Date would be December 8, 2021
Motion to adjourn: 7:40 pm WA8SYD second KC8TVW

Mike Metzger, WB8TNF did a presentation called "KTWR 2021 MY SUMMER AT A HIGH POWER SHORTWAVE BROADCAST STATION". Great presentation!

TMRA MEMBERSHIP

If you have not already renewed, TMRA memberships for the current year have already expired on June 30th! 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 www.tmrahamradio.org/store

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.

We will be taking nominations for the LCARES Board at the November 20th meeting. If you wish to run or would like to nominate someone please attend the meeting. You must remember when elected Board members serve a

two year term. If you are not going to be at the meeting but would like to make a nomination contact Jim KE8IJU.

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

Please use the repeaters as much as possible.

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

The Lucas County SET was held on October 2, 2021 at the 911 Training Center. The decision was made to hold it there after last year's poor turn out and the fact the control operator and AECs with ICS experience could help out those who were having trouble understanding what they were doing. The alert for the AECs to report went at 9:17 a.m. and after they reported to the center we held a quick briefing. Shortly after 10 o'clock, a full alert was set off activating the whole Lucas County ARES Group. We had several check ins, but only two members were able to activate to the 911 Training Center where they had started the simulated emergency test in different positions of the building.

Seeing that we were going to not have any active participants after a long period of time went by, the EC called the Net Controller and told him to shut down the net and we turned the SET into a training session for ICS forms and radiograms.

We would like to thank those who did show up and participate as well as our net controllers. We appreciate all those who did check in as well.

We will be talking about this some at the next ARES meeting on October 23rd.

FAQ about RF Exposure Rules Changes

from ARRL

ARRL has received a number of questions related to the changes that the FCC has made to the ways that all radio services determine whether they need to do a station evaluation as required by the RF-exposure rules. The most common questions ARRL is receiving are answered below.

Q: Are these new rules?

A: Amateur radio has been subject to a requirement to meet the RF-exposure limits that apply to virtually all radio transmitters for over 25 years. Older rules had different evaluation requirements and different exemptions from the need to do evaluations for each separate radio service. The new rules change this and set a single, formula-based criterion for all radio services to determine whether an evaluation is required. This criterion is a formula in the rules that take into account transmit power, antenna gain and frequency. While application of the rules has changed, the underlying substance has not. Knowledge of the FCC's RF-exposure rules has long been required of examinees for all class levels of amateur license, and amateurs continue to be required to certify on their FCC Form 605 applications that they comply and will comply with the requirements of the FCC RF-exposure rules.

Q: I was categorically exempt under the old rules. Do I now need to do an evaluation?

A: The rules change allows stations that complied with the old rules to continue to be operated under the old rules until *May 3, 2023*. If you were exempt from

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FAQ—from p. 4

the requirement to evaluate your station under the old rules, by *May 3, 2023*, you will need to determine that you are still exempt using the new criteria for exemption described in the new rules, or perform an evaluation. If you have previously evaluated your station, the evaluation is still valid, so you will not need to do the same evaluation again in two years unless you make RF-safety related changes to your station. If you make a change to your station after *May 3, 2021* that could affect RF exposure, such as increasing your transmitter power, putting up a new antenna or moving an existing antenna, you need to calculate whether you are exempt from the requirement or do an evaluation before you put your changed station into operation. In many cases, using one of the on-line web pages to do a calculation is just as easy as doing the calculation to see if you are exempt.

Q: How do the new rules affect the exemptions for amateur radio?

A: Under the old rules, many amateurs were categorically exempt from the need to do an evaluation, based on transmitter power on each band, for example. Under the new rules, there are no longer any service-specific exemptions. These have been replaced with formulas that can be used to determine whether a specific installation needs to be evaluated. The formulas can be used for exposure that is beyond the near-field/far-field boundary of

your antenna, defined as wavelength/2 π , or 0.16 wavelength. Most stations that were exempt under the old rules will still be exempt from the need to perform a more complete evaluation under the new rules.

Q: Have the exposure limits changed?

A: No. The limits have not changed. The new rules changed the way that operators of radio transmitters can determine if they need to do an evaluation but did not change the exposure limits. Even if a station was exempt under old rules, the operator has always been required to comply with the exposure limits.

Q: How complicated is it to do this evaluation?

A: For most stations, it is not complicated at all. Most station operators can use the RF-exposure calculator page that is linked on the ARRL RF-exposure web page and use either their transmitter peak-envelope power (PEP) and antenna gain as "worst case." They can also do some easy calculations using mode duty factor and on/off duty factor times if needed to find their average transmit power to demonstrate compliance at closer distances. Real antennas generally do not radiate as much energy towards people as these theoretical maximums, so some amateurs may want to use other methods. Many calculations using these methods are available for free from ARRL's information pages.

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FAQ—from p. 6

Q: I read that now we have to measure the field strength from our stations. What equipment do I need to buy to do this?

A: Although amateurs could measure the field strength from their stations, measurements are not required. As was true under the old rules, amateurs may use any valid method they feel appropriate to evaluate their stations. For most amateurs, this will involve calculations, either using simple formulas or antenna modeling, although some amateurs may elect to make measurements. To accurately measure field strength, expensive and calibrated instrumentation is required, so calculation methods are more practical for most amateurs.

Q: How do I report my results to the FCC?

A: You do not report results to the FCC. If not exempted due to power, frequency and antenna gain, you are required to do an evaluation and make any changes necessary to your station to ensure compliance. Although it would be a good idea to keep information about performing the needed evaluation of a station, the FCC rules do not mandate that amateurs keep records of their evaluations. The FCC could inquire of you about the results of your evaluation, but they generally do so only in response to a complaint or in relation to some other issue.

More Information

Q: Where can I learn more about this?

A: The following resources are available from ARRL, or linked from ARRL's information page about RF Exposure.

- <http://arri.org/rf-exposure> All ARRL information about RF exposure. Some of the information still points to the old rules.
- RF Exposure calculator: <http://www.lakewashingtonhamclub.org/resources/rf-exposure-calculator/>
- *RF Exposure and You* book free download. Material about the old rules will be updated.
<http://www.arri.org/files/file/Technology/RFsafetyCommittee/RF%20Exposure%20and%20You.pdf>

Q: I still would like some help. What can I do?

A: The ARRL can help if you run into difficulty. Contact ARRL by email at tis@arri.org and one of our engineers will get back to you. If you need to talk, provide your name, phone number and time to call between 9AM and 4PM eastern time. Reviews the following pages for information about doing an evaluation of your station and download the book, *RF Exposure and You*, referenced above, for more detailed information. ■

Active Antennas

Bruce AA8HS, Editor

For shortwave or ham radio listening, an antenna of appropriate length for each band may not be practical. Hams who live in an HOA may not be able to place any long wires at the QTH.

Conventional antennas may use capacitors and inductors. An active antenna, however, uses a powered active component, such as a field effect transistor (FET) and associated parts, to provide amplification. The whip antenna element connected to the input of the preamp is usually much shorter than a normal antenna would be for a particular band. This arrangement allows the active antenna to work with a much larger bandwidth than a wire antenna. Since the FET has an input impedance in the megaohm region, it will work with any shortened antenna since these usually have high impedances anyway.

This is a tunable indoor active antenna.

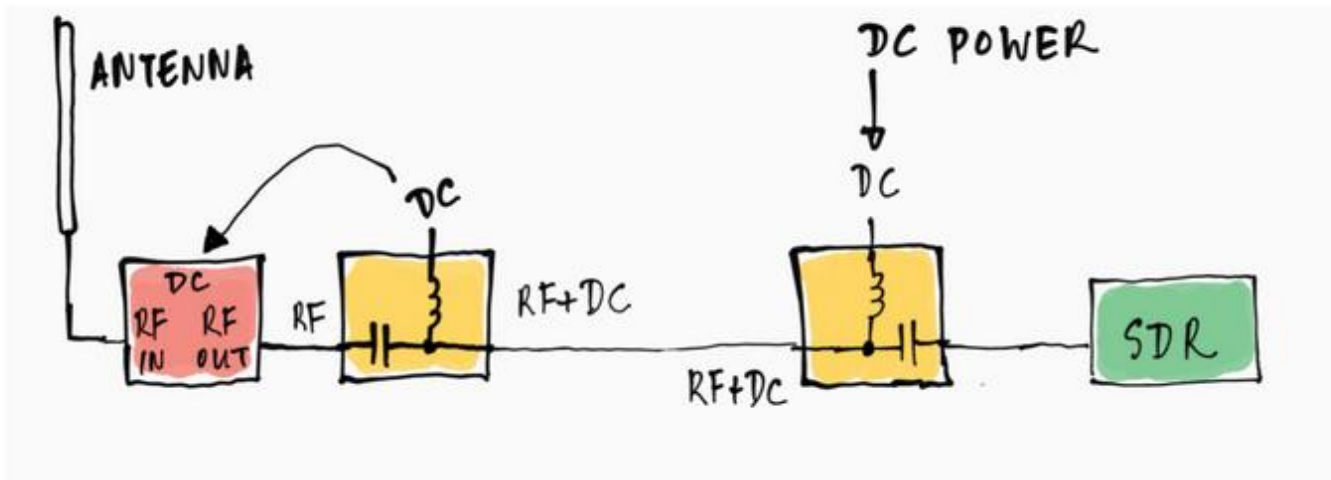


MFJ-1020C \$119.95



This is the QRP kits active antenna with 4 foot whip. \$25. I am very impressed with this antenna's indoor and performance. You could mount it outdoors in a waterproof tote and use a good ground and a longer receiving wire. Using this antenna outdoors allowed me to hear numerous ham and broadcast stations and even copy digital signals on 630 meters.

The active antennas intended for outdoor use often include a BIAS-TEE. This is an arrangement where the voltage to power the active antenna goes through the center lead of the coax (this is commonly used in satellite TV). The ground is common to RF and the power supply. A choke coil at both ends keeps the RF out of the 12 volt line. A capacitor keeps the RF flowing from the preamp output to the coax center lead and to the bias-tee connector to your radio.

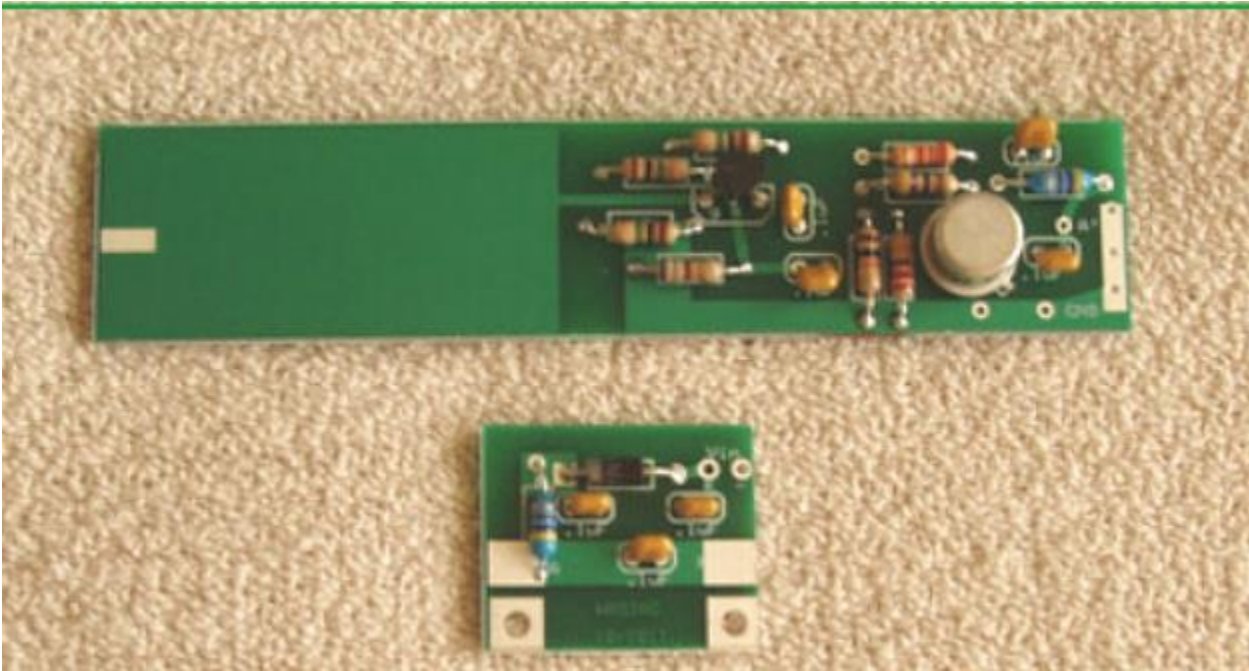




The Mini-Whip. Great for RV's. About \$45.

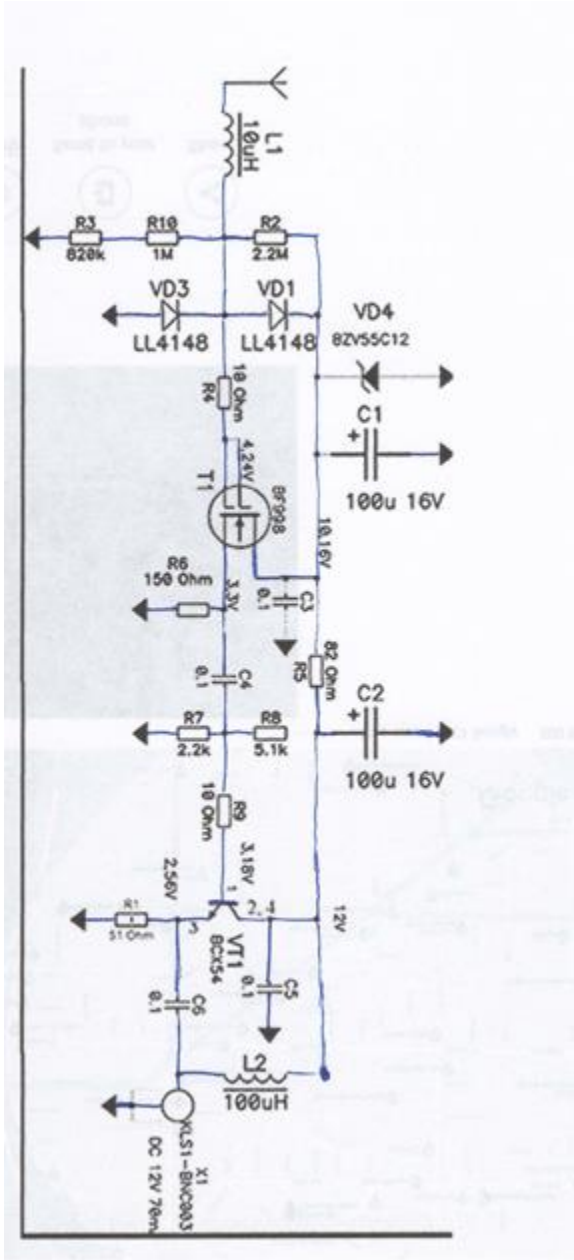


Note the European power connector. \$10 for the right one.



The antenna is copper on the circuit board on this one. You could always open the PVC case and solder a longer wire. Some hams believe that a ground really helps.

This is the preamp for the Miniwhip. L1 provides base loading for the very short antenna so that it appears electrically longer. VD1 and 2 provide protection for very strong signals. The T1 FET has a very high impedance to work with a shortened antenna. VD4 is a zener diode that keeps the 10 volts stable. VT1 provides a low impedance output. L2 keeps the output RF from entering the 12 volt B+ line since the 12 volts is carried in the center lead of the coax. C6 passes the output of VT1 to the center lead of the coax and blocks the 12 volts.



Magnetic Loop Antennas

Although active antenna preamps produce little noise, they do amplify atmospheric, and human made noise since they amplify all signals. Radio waves have electric and magnetic components that are 90 degrees from one another in space. Most antennas

and noise lie in the electric plane. Magnetic loop antennas capture the magnetic field which is weaker than the electric field; therefore, they require preamplifiers.. They have less noise overall than other types of receiving antennas . Loop antennas can be rotated to minimize noise and maximize signal. This can be a complement to the ham shack when a lot of noise is present near the QTH.

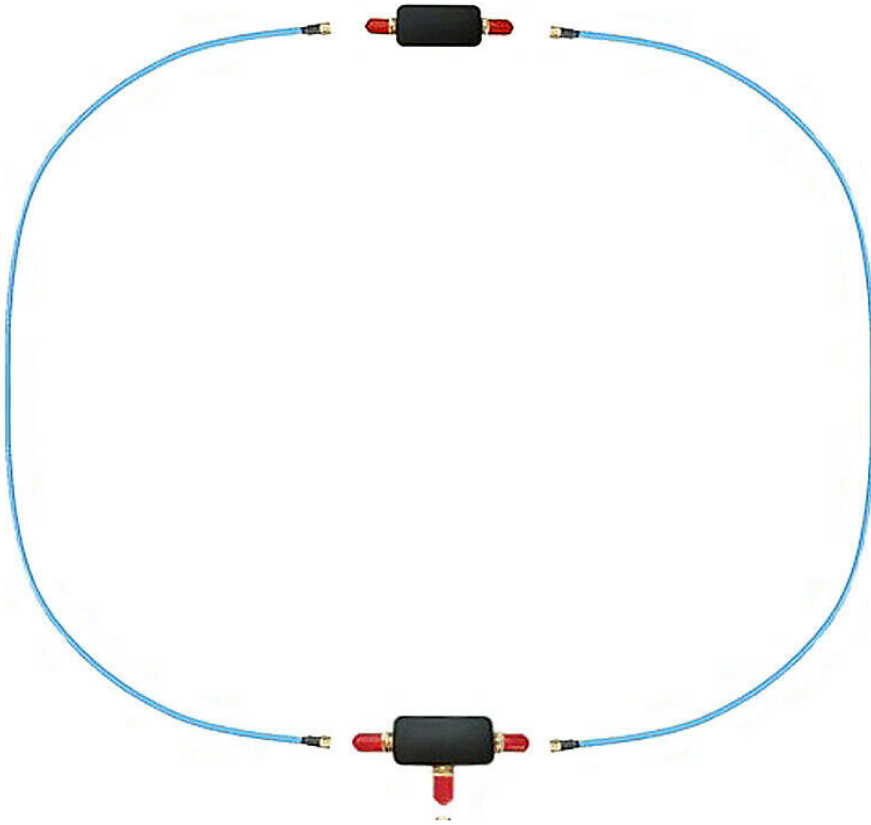
The MFJ-1886 loop antenna has separate amplifiers for each end of the loop. Their outputs are combined.



MFJ-1886 powered loop antenna. \$300.

See Dave Casler's review of this item.

<https://www.youtube.com/watch?v=OEny55bZ8FA>



This is a YouLoop, \$30, a type of Mobius loop. These are very popular. A Mobius loop is made of stiff coax. A box at the top is where the center lead of one side of the coax is connected to the shield on the other. The same takes place on the other coax piece. The lower box contains a tiny wide band RF transformer. SMA connectors are used. With a wideband HF preamp, this 36" antenna brought in numerous ham and shortwave stations. My 36" Pixel Technologies Mobius loop was better at low frequencies and AM broadcast. With a cheap Chinese preamp, I brought in many VHF and UHF stations, including the TMRA 900 Mhz repeater, with this \$30 item.

<https://swling.com/blog/2020/06/rob-reviews-the-airspy-youloop-antenna/>

<https://airspy.com/youloop/>

Ham Radio Humor



ResisThor



CapaciThor



InduThor

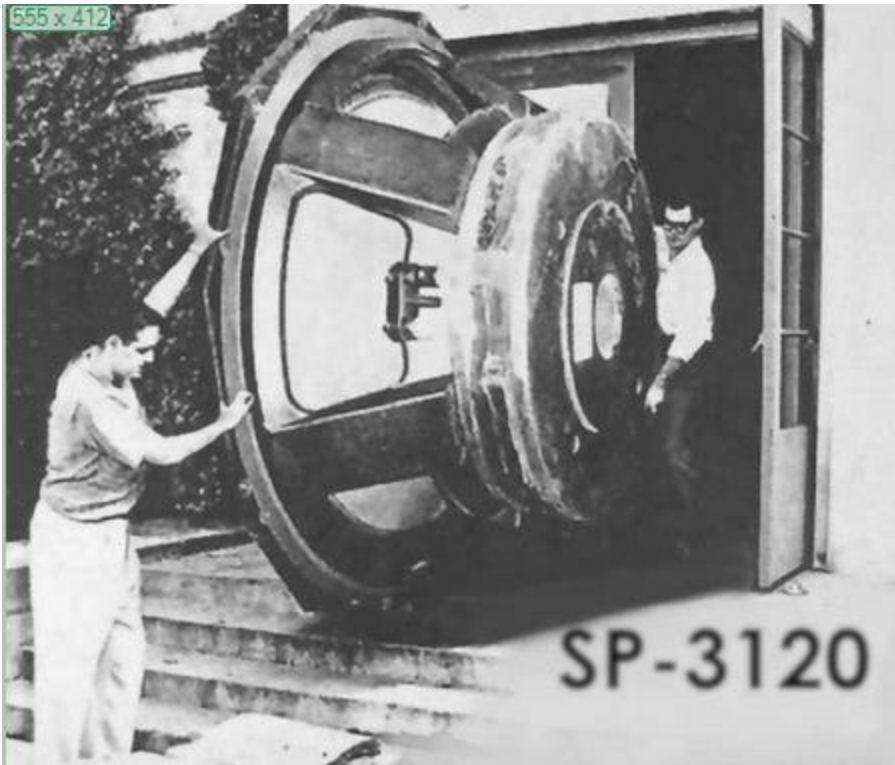


TransisThor

From Dave, KD8TVN







HAM RADIO
IS ONLY
AN
ADDICTION
IF YOU ARE
TRYING TO
QUIT!



Dale's Tales

Dale's Tales for November 2021

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

October has traditionally been the month in which the ARRL's Simulated Emergency Test (SET) takes place.

This year was not exception as the three Sections that comprise the Great Lakes Division, Kentucky, Michigan and Ohio, each held their SET events. It is permitted to hold a SET on a weekend convenient for the participants and that's exactly what we did. There is a scoring system in place that encourages community contacts and messaging, and strives to introduce new players into the process. This also allows Amateur Radio Emergency Service® ARES® groups a means to compare one year's efforts against others.

I hope your SET went well, I hope something broke and I hope everyone gained some knowledge about work-arounds and improvements that can pay off in a real emergency situation. Innovative ideas abound when something does not go as planned and it is a time to recognize those lessons learned to everyone's advantage. A "Hot Wash" or more properly, an After Action Review, is a mandatory finish for any exercise. This is the time to self-examine all phases and doing it immediately after the closing of the exercise insures that all of the details are clear in the minds of the participants. It is not the time to be critical of anyone, but only of the events that took place with carefully considered ideas of how to do better next time.

My thanks go out to all who helped. These can be huge and complex events and it takes a lot of thought to insure that there is a place for any ham that wants to play. I hope everyone had that opportunity. I often think about the contributions that some of our special parts of ham radio can offer in an emergency. We normally recognize the EMCOMM folks who are close to this every day, but traffic handlers are also key players. And who can you call on when HF communications are tough? The DXers and contesters, who have well designed stations and antenna systems and regularly copy those very weak stations. And they do it so effectively through intense QRM. Of course an active ARES Emergency Coordinator, through the local ham clubs' contacts, knows the community's available resources and can call upon the added expertise when it is needed.

Emergency Communications has served as an entry point for many newcomers to amateur radio as it combines with the desire for community service.

ARRL is in the process of searching for a new national Emergency Communications Director to guide ARES and strengthen its future. This new Director will work with our served agencies at the national level, to build on existing relationships, renew Memoranda of Understanding and collaborate with the ARRL Field Organization to insure their needs are met. Currently, the Emergency Communications / Field Services Committee (ECFSC) is in the process of updating the ARES Plan that was approved by the ARRL Board in January of 2019. The ECFSC was created by the ARRL Board to coordinate the ARES as well as the other Field Services activities that report to our Section Managers.

This task of updating and adjusting a plan is not easy. For example, there is a need for common training levels to allow mutual aid when personnel are being over extended. Yet, there are portions of the country where training can be an issue because of extensive travel conditions - think Alaska where one must often fly to get to the next community. It is true that remote learning advancements resulting from the Covid-19 Pandemic have allow some adjustments, but there remains the need for personal contact and familiarization for those individuals that must serve as a team. Other unique situations must be considered and evaluated, most relate to specific geography but some must accommodate variations in ethnicity and language. What a potpourri this country is.

A SPECIAL NOTE REGARDING SCHOLARSHIPS. The ARRL Foundation Scholarship Program opens TODAY.

The ARRL Foundation scholarship application period for the academic year 2022-2023 opens on November 1st and ends on December 31, 2021. The Foundation issued \$550,000 in scholarships for 2021-2022 and for the academic year 2022-2023 there has been a significant increase in the number of large dollar scholarships available thanks to a generous contribution from Amateur Radio Digital Communications, Inc. (ARDC).

For the academic year 2022-2023, 130 scholarships will be offered totaling \$900,000! There are twenty \$25,000 scholarships, four \$15,000, seventeen \$10,000 scholarships, nine \$5,000 scholarships as well as dozens of \$1,000 and \$500 scholarships. The descriptions of the scholarships available are on line.

<http://www.arrl.org/scholarship-descriptions>

It is also very easy to apply as the scholarship application is on line.

<http://www.arrl.org/scholarship-application>

Since only amateur radio operator students may apply, the chances of being selected for a scholarship are good. It would be a shame to miss this opportunity. Since 1973, the ARRL Foundation, with the generosity of many donors and the hard work of a long line of dedicated Foundation Directors, has had a positive impact on the lives of many young amateur radio operator students. Being awarded an ARRL Foundation scholarship could mean the difference in whether a student can pursue their education in 2022-2023 or not.

Thank you.

Dr David Woolweaver K5RAV, President, ARRL Foundation

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

Fall is definitely here. The leaves are turning colors, the squirrels and chipmunks are making nests in your attic and there is a cold bite to the morning air to cool your coffee down. Are you ready for what is coming next? I will remind you that Christmas is just 55 days away! I hope you are working on your Christmas lists.

November is Sweeps month, both CW (November 6-8) and Phone (November 20-22). I have always loved this contest, especially when I had the perfect call for it. My old call was KC8SS. That call sign got me into more pileups than I could count. I will be on both the CW and Phone contests so listen up for me.

Ok, let us get serious for a minute. Where is your ham shack located? Is it in the basement, garage, or outbuilding? Most generally ham shacks are not in the living room and as such, heating devices for your shack are usually some sort of a supplemental heater/furnace and that is why this next paragraph is so important to talk about now that the weather is getting colder. I want to talk to you about Carbon Monoxide (CO) poisoning.

First, let me describe what Carbon Monoxide (CO) is. Carbon Monoxide (CO) is the poisonous gases emitted from carbon fueled heat sources (i.e... gas or fuel oil furnaces, wood burning fireplaces or stoves, kerosene, or propane heaters). I could go on, but you get the idea.

Carbon Monoxide is colorless, odorless and it will kill you if you breathe very much of it in. How does this gas kill? It migrates into the blood stream and replaces the oxygen in your blood with the Carbon Monoxide. Once it invades your blood stream it will be with you for an exceptionally long time. In fact, most of your life! Just ask any firefighter about that. That is where a Carbon Monoxide "CO" detector comes into play. These little devices are inexpensive (usually around \$20) and can really save you and your family's lives. Buy one or more of them now (if you don't already have one) and use them!

Hey Affiliated Clubs, have you looked to make sure that someone has filed your annual report with ARRL? This is one of the most common mistakes that I hear about from club officials, they either did not know, or just thought someone else had taken care of this. Please, check your club's affiliation record annually. Oh, and those

clubs that have been - or are currently Special Service Clubs, make sure to check on your renewal date for that as well. Since the SSC is renewed on a 2-year basis, this is even more forgotten about. Both renewals are quick and easy to do online.

ARRLs YouTube channel, ARRLHQ, has launched a series of amateur radio Technician-class license courses. This series of videos features Dave Casler, KE0OG, QSTs "Ask Dave" columnist, who leads viewers through The ARRL Ham Radio License Manual. These videos supplement the manual and provide an overview of the sections you will be studying, along with a few videos on how things work.

Notable November dates – November 2nd is election Tuesday throughout the country. November 7th is the return of standard time. Yes, you shift an hour of time, but you gain that hour of sleep you lost in the spring. I have already mentioned the dates of Sweepstakes and of course Thursday, November 25th is Thanksgiving.

That is going to do it from here this month. Stay safe and "Catch Me On The Air"!!!

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

HAMFESTING:

Here is the current listing of Great Lakes Division ARRL Sanctioned hamfests for the remainder of 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.

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

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

12/05/2021 - L'Anse Creuse Swap, Troy, MI

EARLY 2021 Planned events:

01/16/2022 - SCARF Hamfest, Shade, OH

01/23/2022 - Hazel Park Swap, MI, location to be announced

03/13/2022 - NOARS Winter Hamfest, Elyria, OH

04/19/2022 - Cuyahoga Falls, Cuyahoga Falls, OH

For the latest detail on regional hamfests, check the ARRL web page at:

<http://www.arrl.org/hamfests-and-conventions-calendar>

73, Stay safe. Get out there and test Cycle 25!

Dale Williams WA8EFK
Director
Great Lakes Division
wa8efk@arri.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 dlcunn@sbcglobal.net. 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 rlhornbeck@att.net.
- The **TMRA apparel store** is now open. Contact Gold Medal Ideas at <http://www.goldmedalideas.com/tmra>.
- 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 www.amazon.com, 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
TMRA
P.O. BOX 9673
TOLEDO, OH
43697-9673

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Editor: Bruce AA8HS
E-mail: AA8HS@arrl.net