



Official Publication of the  
West Allis Radio Amateur Club

# Hamtrix

[click here to go to web site](#)

Volume 70, Issue 7 July, 2021

## JULY CLUB HAPPENINGS

July 13, 2021 7pm

**This will be an eyeball QSO meeting**

**New Berlin Community Center**

**14750 W. Cleveland Ave.**

**New Berlin, WI**

**Between Mooreland and Sunny Slope**

**Our Annual Auction**

**Auctioneer Steve Dryja NO9B**

See page 7

**Premeeting dinner**

**New Berlin Ale House 5:15pm**

**16000 W. Cleveland Ave**

**West of Mooreland Rd.**



**NUT NET**

3.985mhz

Monday-Saturday

8:15am CT

**NUT NET**

Breakfast

8:30am fourth

Tuesday

of the month

**Milwaukee-Florida Net**

Every Day on 14.290 Mhz

7:00AM - 9:15AM ET

6:00AM - 8:00AM CT

### Sunshine Committee

If you know of a member who could use a bit of cheer or support,

Barb Garnier (KD9HPS) is now the Sunshine Committee Chair.

Contact her: 414-529-3536 or [barbsewsblue@gmail.com](mailto:barbsewsblue@gmail.com).

**Sendik's Grill Fund raiser dates**

**Saturday July 24, 2021 11:00 am to 4:00 pm**

**Saturday September 11, 2021 11:00 am to 4:00 pm**

**Board Meeting July 27, 2021 7 pm**

**Location TBD**

**WARAC 2-meter net**

Every Wednesday at 8pm

SEWFARS W9TJK Repeater 146.820

standard (-) offset 127.3 Hz CTCSS

if repeater down try 146.55 simplex

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## The Presidents Shack

Well after more than a year we are going to have an eyeball QSO meeting. We will be holding it in the New Berlin Community Center but we will be in a bigger room so those who still prefer social distancing can still be there.

The program will be our annual auction. So bring stuff and money.

On Saturday July 24, 2021 from 11am to 4pm we will be holding our second Sendik's fund raiser . Be prepared to sign up to help. The last time we had one we had fun while raising money for the club.

Next month will be our annual picnic with pizza.

We continue to have the Slow Speed CW QSO Net. My CW skill is improving and we are having fun! Come join us if you can hear us. If not in range maybe you want to start your own. Our format is we use voice on a repeater to gather and discuss whats happening. Then we go to 6 meters and do some CW maybe a QSO or listening to contest exchanges and seeing if we can copy them. Having Mike WO9B as our Elmer is nice but even without him we get together and talked to each with code.

I have been attending Mike's WO9B park activations from when he started this year. I usually had the grandkids with me. Now that they are in summer camp I can bring radio equipment! So I'm learning my equipment.

• —• —••

Frank KA9FZR



My morning nut net breakfast shack HI HI

• —• —••

## WARAC Club Meeting Minutes – June 8, 2021

Due to the nature of the COVID-19 crisis and Governor Tony Evers “Emergency Order #12 Safer At Home Order”, Chuck W9WLX hosted the Zoom Meeting.

The club meeting was called to order 7:02 pm by Frank KA9FZR.

Approximately 16 virtual club members were identified by the Secretary Dave WB9OWN. There were no visitors.

Welcome back Feroz Ghose WU9N & Joe Seifert N9JOS!

### 2021 Wisconsin QSO Party Results by Chuck Dellis W9WLX.

- An in depth review of the 2021 final results were given, (the PDF document was posted on the WARAC website,) <http://www.warac.org/wqp/2021/results2021.pdf>

A big thank you to Chuck Dellis W9WLX and his team for this outstanding effort!!!

### - Club Presentation, Overview of the FlexRadio Power Genius XL Amplifier by Chuck Dellis W9WLX.

This was an interesting and thorough review of an amplifier endowed with a number of unique design features to the amateur radio market...

This is without a doubt a serious amplifier design.

1) RF Power Output of 1500W 100% Intermittent Commercial and Amateur Service (ICAS) duty cycle, capable of 2000W. This amplifier uses a pair of MRF1K50H LDMOS devices, capable of 1500W CW output power into a VSWR of 65:1 open or shorted.

<https://www.nxp.com/docs/en/data-sheet/MRF1K50H.pdf>

2) This is SO2R amplifier, (single operator for 2 radios or for 1 Flex Radio.) Built in duplex filtering for 2 radios, nominal 70dB isolation between input ports.)

3) Automatic Class AB or ABB mode sensing, accomplished with an auto-ranging Vdd power supply from 29.9 Vdc to 52.0 Vdc.

4) Genius XL Amplifier internal power supply, auto-ranges input voltages from 90-250 Vac 50/60Hz, no user adjustable taps required.

5) Amplifier is designed to be seamlessly interfaced with non-Flex transceivers, Elecraft, Icom, Kenwood or Yaesu.

Please see FlexRadio data-sheet for further information: <https://www.flexradio.com/documentation/power-genius-xl-user-guide/>

[https://4o3a.com/images/downloads/pgxl/Power Genius XL User Guide v2.9.12.pdf](https://4o3a.com/images/downloads/pgxl/Power%20Genius%20XL%20User%20Guide%20v2.9.12.pdf)

- 2021 WARAC Field Day at New Berlin Recycling Center is still OFF. If some club members want to conduct FD at the New Berlin site, Chuck Dellis W9WLX has the contact information. What do you want to do?

- May minutes were approved.

- July 13th WARAC Club Meeting will be held at the New Berlin Community Center.

- July 27th WARAC Board Meeting, meeting method is TBD.
- August 10th WARAC Club Meeting will be held in a park, location to be announced.
- WARAC elections are coming up, more later.
- **Sendik's Brat & Burger fund raising:** July 24th & September 11th 11AM – 4PM at the Sendik's store 79th & Layton Avenue. (Note. This store is located in strip mall that's perpendicular to Layton Ave.) Any volunteers?
- Mike's next POTA event will be June 9th will be held at Havenwoods State Forest 6141 N. Hopkins St. Milwaukee. Due to Mike's Field Day (FD) planning Mike will not be holding any further POTA events until after FD June 26-27th.
- **ARRL 2021 WARAC Scholarship Award has been announced per Howard WA9AXQ,** Ryan Sissons KD9BGD from Bargsville, Illinois; unfortunately the recipient wasn't from Wisconsin.
- Joe Seifert KB9QQJ has a new call, N9JOS.

General meeting was adjourned about 8:48 pm.

Respectfully Submitted,  
David Garnier WB9OWN  
Secretary WARAC, June 8, 2021

### West Allis Radio Amateur Club – Sign In Sheet

General Meeting Zoom Call Listing 06/08/21

Name	Call	Member
Frank Humpal	KA9FZR	Yes
Bill Dargis	KD9BJZ	Yes
Chuck Dellis	W9WLX	Yes
Steve Dryja	NO9B	Yes
MikeFalk	AA9RK	Yes
George Dunco	AA9SR	Yes
David Garnier	WB9OWN	Yes

Feroz, Ghouse	WU9N	Yes
Phil Gural	W9NAW	Yes
Al Hovey	WA9BZW	Yes
Mike Johnson	WO9B	Yes
Tom Macon	K9BTQ	Yes
Bill Reed	N9KPH	Yes
Howard Smith	WA9AXQ	Yes
Joe Seifert	N9JOS	Yes
Tom Seizer	K9SQU	
Phil Tollefson	WA9AQL	Yes • —• —••

## DXing and Contesting - July 2021

### DX UPDATE:

**DX Operations:** DX conditions are GREAT. Operations are literally everywhere. **DX WORLD** is a great place to keep current.

### Hot Modes/Bands:

60 Mtrs: Propagation literally to all corners of the globe. Check evening conditions with FT-8

20 Mtrs: 20 is experiencing long term openings to Europe and Asia. The band stays open late into the evening.

17 Mtrs: Surprising consistent DX openings

10 & 15 Mtrs: These bands are back in play. In addition to the typical trans-equatorial skip, medium and even very short skip (Sporadic-E?) are common during daylight hours. FT-8 is proving to be very productive with easy DX.

6 Mtrs: Summer VHF Sporadic-E and Tropo conditions are excellent. Regular openings to Europe and Asia abound. FT-8 remains the popular mode, but SSB and CW offer relief from the digital crowds.

Solar: Solar activity is hot and getting hotter. Sunspot numbers are increasing into the 60's +++. SFI is now living in the 80's and 90's. Cycle 25 is revving up and the bands are responding accordingly. Watch out for CME events. The first Class X event of Cycle 25 was reported on July 3rd.

### CONTEST UPDATE:

July finds us in a contest lull. Not much happening in the way of big contests. Besides, who wants to stay inside in the summer? That leaves us with some less time consuming, smaller events to occupy our radio itch. For those events, read on.....

Reminder that WARAC sponsors the Monday night Slow Speed CW QSO Net at 8:00 PM meeting on the 147.135 repeater. Jump in to polish your CW skills in a friendly, low pressure get together. It's fun.

- QRP Fox Hunts: 20 Meter events every Thursday at 8:00 PM. These can be fun and frustrating.

[www.qrpfoxhunt.org](http://www.qrpfoxhunt.org)

- CQ WW VHF Contest: July 17-18.
- ARS Flight of the Bumblebees, QRP CW: July 25th
- MO QSO Party: Aug 1st

Pretty lean agenda this month. So if you are looking for unscheduled excitement, you might take a run down SOTA and POTA lane. These operations go on daily and the activators are just itching to communicate with you.

SOTA: [www.sotawatch.sota.org.uk/en/](http://www.sotawatch.sota.org.uk/en/)

POTA: [www.pota.us](http://www.pota.us)





June 2021 \* Hamtrix \* By Michael Johnson, WO9B

### Dialing in the BER

One of the joys of DMR hotspots is that we get all sorts of feedback on our signals. Or not. Depends on what we pay attention to. One of those nagging feedback data points is the Bit Error Rate (BER). As is my standard disclaimer, what follows is aimed at MMDVM Hotspot users. If your hotspot is otherwise, check your manual.

OK, the BER is a measurement of the quality of the digital stream of information that makes up the digital voice communication. It is expressed as a percentage and is reported on the Admin screen / Dashboard.

When setting up the hotspot, the MMDVM hat module has a recommended TXOffset and RXOffset label that is your initial starting point in setting up the hotspot. Every hotspot is different and will change over time. The long and short of it is anything less than 1% is OK. Somewhere along the way, .3% became the de facto optimum setting. In reality, if your BER is 1% or less, your signal will be just fine.

Gateway Activity									
Time (CDT)	Mode	Callsign	Target	Src	Dur(s)	Loss	BER		
11:19:37 Jul 5th	DMR TS2	A48RK (GPS)	TG 3126	Net	4.4	0%	0.0%		
11:08:14 Jul 5th	DMR TS2	WO9B (GPS)	TG 3155	RF	1.4	0%	0.0%		
11:03:49 Jul 5th	DMR TS2	K8VL (GPS)	TG 3126	Net	5.2	0%	0.0%		
10:46:57 Jul 5th	DMR TS2	KB9ZB (GPS)	TG 3155	Net	10.1	0%	0.0%		
10:46:42 Jul 5th	DMR TS2	W9LR (GPS)	TG 3155	Net	10.6	0%	0.0%		
09:43:33 Jul 5th	DMR TS2	W9DHI (GPS)	TG 31551	Net	5.6	0%	0.0%		
09:37:47 Jul 5th	DMR TS2	W19EHS (GPS)	TG 3155	Net	0.4	0%	0.0%		
09:36:09 Jul 5th	DMR TS2	KA9SXH (GPS)	TG 3155	Net	67.7	0%	0.0%		
09:30:57 Jul 5th	DMR TS2	KB9G (GPS)	TG 3155	Net	14.8	0%	0.0%		
09:10:43 Jul 5th	DMR TS2	KB9SAR (GPS)	TG 3155	Net	0.5	0%	0.0%		
09:09:37 Jul 5th	DMR TS2	N9XCK (GPS)	TG 3155	Net	7.6	0%	0.0%		
08:48:31 Jul 5th	DMR TS2	KFBF (GPS)	TG 31261	Net	0.1	0%	0.0%		
08:35:26 Jul 5th	DMR TS2	K79TT (GPS)	TG 3155	Net	43.0	0%	0.0%		
08:02:45 Jul 5th	DMR TS2	W8EO (GPS)	TG 3126	Net	0.8	0%	0.0%		
07:32:27 Jul 5th	DMR TS2	W4WJR (GPS)	TG 31261	Net	50.5	0%	0.0%		
07:31:27 Jul 5th	DMR TS2	KARE (GPS)	TG 31261	Net	67.8	0%	0.0%		
07:16:23 Jul 5th	DMR TS2	KC90NY (GPS)	TG 31551	Net	20.9	0%	0.0%		

Local RF Activity							
Time (CDT)	Mode	Callsign	Target	Src	Dur(s)	BER	RSSI
11:08:14 Jul 5th	DMR TS2	WO9B (GPS)	TG 3155	RF	1.4	0.0%	-59+46dB (-47 dBm)

But then, we are ham radio operators after all and our quest for perfection in all things having to do with signal purity is, well, pretty hard to squelch. My goodness, I admit to being in that club. And so we adjust. And adjust. And adjust.

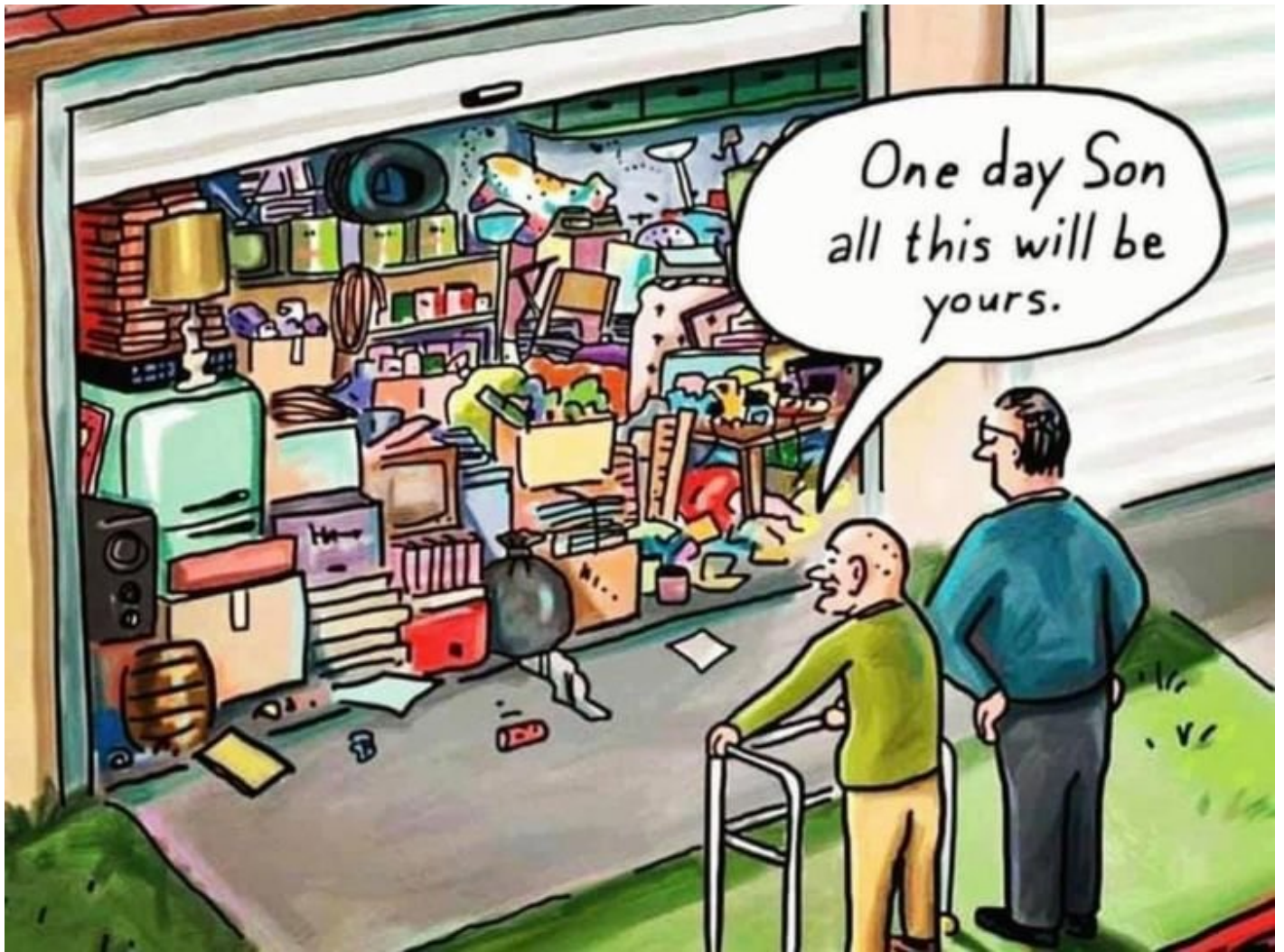
You have two options in adjusting your BER.

Option #1: Accept the "label" recommendation and then manually enter adjustments into the RXOffset to improve your report. Start with a large adjustment and work your way to a happy BER. Simple.

Option #2: Pi-Star provides a BER / Deviation calibration program. This will definitely fine tune your radio performance matching it extremely well to your hotspot. The program is called MMDVMCAL. It's use is a bit involved, so with Google your friend, you can find all manner of how-to's. Try this link: <https://www.george-smart.co.uk/tag/mmdvmcal/>.

MMDVMCAL works great, but has a learning curve. Sometimes it is just easier to get close enough.

Next Month: DMR Networks • — • —•



### **The annual club auction.**

We need your donations to make it work. Gather up those treasures, semivaluables, the pile of "what the heck was I thinking" stuff and bring it on down to the meeting. Steve, NO9B, will be in top form again, stewarding the auction action. What more can you ask for? Don't forget to stuff a few Jackson's into your wallet...you never know.

## Hamtrix Sales Corner

### Microcontroller Projects for Amateur Radio

All the information you need to build fascinating projects using the Arduino, STM32 (“Blue Pill”), ESP32, and Teensy 4.0 micro-controllers.

Unfamiliar with C or C++ programming? No problem. Microcontroller Projects for Amateur Radio provides all the introduction you need to build projects such as a programmable power supply, a signal generator, a DSP mic processor, and more!

Some of the practical hands-on projects featured:

- The Morse Code Tutor - learn and practice sending and receiving methods, with or without Farnworth encoding.
- The CW Messenger allows you to send up to 50 “canned” CW messages, that are completely changeable in the field without a PC.
- The Mini Dummy Load is small enough to fit in a shirt pocket, can handle up to 30W, includes an OLED display that shows RF power, yet can be built for around \$20!
- The Double-Double Magnetic Loop antenna sets a new standard for small (3' diameter), multi-band operation and includes remote tuning.

Special Member Price! Only \$34.95 (regular \$39.95)

Product Details

Softcover: 400 pages

One Copy  
New  
Price \$25.00  
Donated to club by  
Howard WA9AXQ

Call or email Frank  
KA9FZR  
KA9FZR@gmail.com  
414-425-0794



## HAMTRIX Sale Corner

Below are some items recently received that may be of interest to you:

Elk Antennas.com new portable 5 element log periodic 2M/440 handheld antenna. Comes with its own carrying case.

Car battery, 12 VDC, Farm & Fleet brand. Capacity is labeled 95 AH. Good for park activation use.

Homebrew pi-network HF antenna tuner.

ICOM IC-756PRO HF/6m all mode transceiver. Comes with microphone, power cable, cover and manual. Excellent condition and has interesting filtering features. Last used for the 2021 FD contest home operation. Nice operating rig.

For additional information, please contact Phil, W9NAW, 414.425.3649.



**WWW.WI9SM.ORG**

**WI9SM 2021 SWAPFEST**

*Featuring:* **TOWER ELECTRONICS**

**South Milwaukee Amateur Radio Club, Inc.**

**SATURDAY, JULY 10, 2021 at 6:30 AM**

American Legion Post 434

9327 South Shepard Avenue, Oak Creek, WI

**TICKETS \$5.00\*** per person @ gate

Food and beverages available starting at 6:30 AM *“Provided by:*

*“The Women’s Auxiliary” Legion Bar opens @ 10 AM*

**Our contract with the Legion Post does not permit early marking off of selling locations**

**Talk-In Frequency**  
**146.91 MRC Repeater**  
 127.3 pl -offset  
 Karen KC9WQJ  
 (414) 578-0492  
 kc9wqj@gmail.com or  
 414-578-0492

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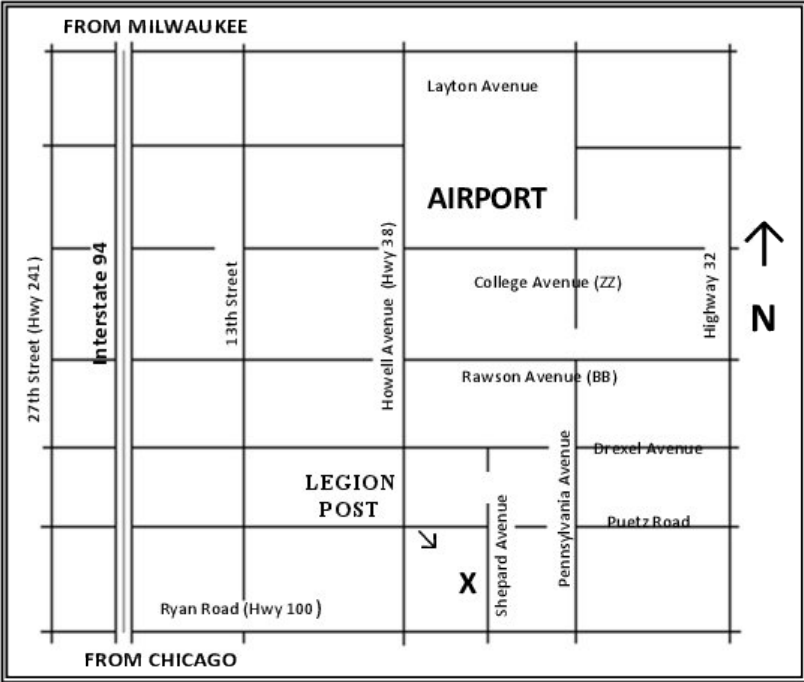
**Grand Prize**  
**Drawing At Noon**  
 Need not be present to win

**1-\$200 & 1-\$150**  
**HRO**  
**Gift Certificate**

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**Next**  
**Club Auction**  
**Oct. 6, 2021**

Doors Open at 5:30 PM  
 Auction @ 6:30 PM



**We are in compliance with the American Legion, Oak Creek Health Dept and CDC protocol. Things are subject to change so check out our Website for all updates @ [www.wi9sm.org](http://www.wi9sm.org). We are asking vendors to please bring a bottle of pump sanitizer for your table**

**Masks are suggested.**

***“Lets all try to be tolerant of each other.”***

***Karen KC9WQJ WI9SM Club president.***

# HAMFESTS

## UPCOMING HAMFESTS

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### 07/10/2021 - WI9SM South Milwaukee ARC Hamfest

Location: Oak Creek, WI

Type: ARRL Hamfest

Sponsor: South Milwaukee ARC Website:

<http://www.wi9sm.org>

### 07/17/2021 - Chippewa Valley Amateur Radio Club HamFest/Tailgater

Location: Chippewa Falls, WI

Type: ARRL Hamfest

Sponsor: CVARC Chippewa Valley Amateur Radio Club

Website: <https://w9cva.org/hamfest>

### 08/07/2021 - Hamfest 2021

Location: Jefferson, WI Type: ARRL Hamfest

Sponsor: TCARC / Jefcares

Website: <http://w9mqb.com>

### 08/07/2021 - Riverland Amateur Radio Club Swapfest

Location: Onalaska, WI

Type: ARRL Hamfest

Sponsor: ARRL

Website: <http://rarc.qth.com>

### 08/21/2021 - Northwoods Hamfest

Location: Tomahawk, WI

Type: ARRL Hamfest

Sponsor: Tomahawk Repeater Assoc. & Rhinelander Repeater Assoc.

### 08/28/2021 - Circus City Swapfest

Location: Baraboo, WI

Type: ARRL Hamfest

Sponsor: Yellow Thunder Amateur Radio Club

Website: <http://yellowthunder.org>

### 08/28/2021 - MRAC & MAARS Interclub Swapfest

Location: Milwaukee, WI

Type: ARRL Hamfest Sponsor: Milwaukee Radio

Amateurs' Club & Milwaukee

Area Amateur Radio Society

Website: <https://www.w9rh.org/club-events/swapfest/>

### 09/11/2021 - Ozaukee Radio Club Regional Fall Swapfest

Location: Cedarburg, WI

Type: ARRL Hamfest

Sponsor: Ozaukee Radio Club (ORC)

Website: <http://www.ozaukeeradioclub.org>

### 10/16/2021 - Wisconsin ARES/RACES Conference, ARRL Wisconsin State Convention

Location: Wisconsin Rapids, WI

Type: ARRL Convention

Sponsor: WeComm Ltd

Website: <http://www.wi-aresraces.org>

## There's No Better Time to Be an Amateur Radio Geek

Once considered a nerdy basement hobby, lo-fi transmissions from ordinary folks save lives during wildfires, hurricanes, and other climate disasters.

<https://www.wired.com/story/amateur-radio-disaster-preparedness/>



The most important component of staying safe during an emergency is the ability to give and receive information. When the power goes out—which it often does, not only during wildfires but also during hurricanes, blizzards, earthquakes, and tornados—the internet doesn't work and cellular networks crash with increased demand. In Northern California, we often have our electricity cut to prevent fire during high-risk times, leaving millions of customers in both metaphorical and actual dark.

When people need information the most, they can't get to it. So what's the solution?

Shortly after I started dating my boyfriend, Martin, a windstorm knocked out power in my Missoula, Montana, neighborhood. The electricity was only out for the night, and the contents of my refrigerator survived. I had a backup battery charger for my phone, and thanks to zero internet distractions and a fully charged Kindle, I read an entire book in a sitting, which I hadn't done since the iPhone took up residence on my nightstand.

The next time Martin came over, he asked what felt like a personal question, considering we were

just getting to know each other. "What kind of emergency supplies do you have?"

I was 41 years old and had kept myself alive thus far, so with moderate confidence I opened my pantry and revealed my full cache of emergency supplies—a box of Kind bars and a 12-pack of La Croix. I soon became the owner of a Lifestraw, headlamp, and list of things to consider.

A couple of years later, we moved from Montana to Northern California. When the Camp Fire blazed through Paradise in November 2018—just 50 miles northwest of us—we felt the potential consequences of being cut off from information. The following spring, Martin got his amateur radio technician license, creating a lifeline for us independent of infrastructure.

When preparing for a natural disaster, most people think of the basics—food and water—but those are only two pieces of a more complex puzzle, and I'm not talking about toilet paper.

### Do You Remember Walkie-Talkies?

My best friend and I received a set of walkie-talkies in the fourth grade. The range was short, but because we lived across the street from each other and weren't

exchanging life-saving information, we were able to share facts such as “my mom is making cinnamon rolls.”

Two-way handheld radios have evolved. In 1996 the Federal Communications Commission (FCC) authorized the Family Radio Service (FRS), which designated special radio frequencies for walkie-talkies so users can communicate without interference from radio stations or cordless phones. Bets of all, there’s no license required to operate.

General Mobile Radio Service (GMRS) is similar to FRS, though it requires licensing through the FCC. The GMRS license costs \$70 and lasts for 10 years, but doesn’t require an exam. One license covers an entire family, though operators must be over 18.

FRS and GMRS are both walkie-talkies, but GMRS radios have the potential for increased range and clarity due to better antennas, higher transmit power, and access to repeaters. (Repeaters are basically relay stations that allow amateur radio operators to reach further than they can radio to radio.) FRS and GMRS don’t transmit information to or from non-paired devices, but they’re a great way to stay in touch with people you know, either in your home or around your neighborhood.

Patsy Haggerty-Sollars, formerly of Paradise and now of Auburn, California, only knew to evacuate during the Camp Fire because a neighbor knocked on her door. Patsy left her mobile-home court with a friend—each in their own vehicle—but they got separated at the main road where police diverted traffic in multiple directions. “They weren’t even trying to put the fire out,” Patsy said. “

Haggerty-Sollars and her neighbor, Judy, were never far from each other, but first Judy lost her cellphone signal and then Haggerty-Sollars lost hers when she drove through flames—despite being in a rag-top convertible—because at that point there was no turning back. It’s not surprising they lost service. Seventeen cell towers burned the first day of the fire, which became the deadliest and most

destructive wildfire on record in California.

Two-way handheld radios could have provided a backup option, and some GMRS radios can transmit text messages and GPS locations, though only to other GMRS radios, not to cellphones or computers.

If Martin and I have to evacuate, we’ll each have a walkie-talkie in our car in case we lose cell service. Evacuating is a realistic possibility as the worst of fire season hasn’t even started in California. Even so, since August 15, 3.5 million acres have already burned, which shatters the previous record of 2 million acres set in 2018..

On the other side of the United States, East Coast residents brace for what the National Oceanic and Atmospheric Administration (NOAA) anticipates to be a more active hurricane season than usual. Forecasters predict the number of named storms to almost double this year, and they may extend into the Greek alphabet.

Martin and I have been practicing using the radios room-to-room within the house and around the neighborhood, which is not exactly fun, because aren’t we already close enough during quarantine?

### **How About The Cannonball Run?**

Another option for two-way radio communication is Citizens Band Radio Service (CBRS), which you may know as CB radio. Films like *The Cannonball Run* and *Smokey and The Bandit* popularized CB radios in the 1970s and 1980s. Since most new cars come hardwired with modern technology, it’s unlikely those devices will once again be mounted inside passenger vehicles (though truckers keep the CB dream alive), but they are an option for those living in high-risk areas who want to stay connected.

People from coast to coast use dozens of apps, all dedicated to emergency preparedness. When hurricanes churn in the Atlantic and Gulf of Mexico, apps can help with navigating evacuation

routes, locating temporary shelters, finding gas stations, and tracking the storms themselves. A phone full of apps feels like security, but when cellphone signals are spotty or lost entirely, they're more like a debit card without a PIN.

That's where CB radios come in. While they seem like a dated form of communication, knowing that channels 9 and 19 are dedicated to relaying emergency information and traffic/road conditions boost their utility. Despite having a Subaru equipped with Starlink, I want one and Martin is down to install it.

### **Do Regular People Use Scanners?**

Celine Negrete, of Grass Valley, California, recently bought a couple of police scanners for her six-person household. Negrete's family doesn't have a landline or cellular service inside their home, but thanks to a tree climber willing to shimmy up a 150-foot Ponderosa pine, they do have internet access. Celine can get a cell signal outside, but in the middle of the night she can't receive alerts.

Because Negrete's house has internet, they can check social media groups for emergency information, but when the electricity goes out, the internet goes too. Their house is built from straw bales and the walls are thick, so they don't receive a clear radio signal inside the house. During times of high fire risk, the family takes shifts going out to the car to listen to the radio, but now that they have scanners, they can monitor local emergency channels from bed. They just have to remember to keep plenty of batteries on hand.

### **A Revved Up Form of Communication**

For someone wanting a more complete package, amateur radio (a.k.a. ham radio) is the way to go, although it involves a bit more planning and preparation before you can start using it. Before legally getting on the air, users must pass a 35-question written exam in order

to receive their technician license and unique call sign from the FCC. After that there are two more levels—General and Amateur Extra—which require additional exams. Licenses are good for 10 years and almost anyone can hold one, with the exception of representatives of a foreign government.

Although I spent most of my life thinking amateur radio was for geeks and grandparents, I now sit with Martin for twice-weekly check-ins with the local amateur radio club. It's a way for ham radio operators to not only touch base with each other, but also to test their equipment. Amateur radio operators not only help themselves, but in emergencies they deploy to assist organizations like the Federal Emergency Management Agency (FEMA), Red Cross, and local public safety offices communicate and coordinate with the public, and with each other.

Ham operators gain access to all of the amateur radio frequencies, which are almost infinite, while FRS and GMRS have limited access. It's like FRS is a bicycle, GMRS is a scooter, and ham is a rocket that can reach the moon.

That's not hyperbole. With the Amateur Extra license, amateur radio operators can communicate not only with other amateur radio operators around the world, but they can bounce messages off the moon.

Do we need our messages to go to the moon in an emergency? Probably not, but a ham operator at any level can do something even better. In addition to all of the talking and listening capabilities, they can send texts and emails via their handheld radios. A text might say "we're OK," or it might say "send help." Either way, it might be just the lifeline you need when other, more modern options have failed.

The American Radio Relay League is a great place to get started exploring amateur radio, regardless of whether you're interested in it as a quirky hobby or potential lifeline. ARES is the Amateur Radio Emergency Services, which has local groups across the United States and Canada. Amateur radio was critical during 9/11 and during devastating

hurricanes like Katrina, Maria, and Sandy, where key infrastructure was destroyed. Even if you don't think the time and investment is worthwhile, even looking into these options may transform the way you think about emergency readiness . . . .



Philippines' Ham  
Emergency Radio  
Operations Net Activates  
for Super Typhoon





### CW Practice

One of the best and maybe the only way to get better at CW is practice. Having someone else who also wants to practice also helps. Just makes it more fun.

The West Allis Radio Club is going to try to help. We are running a CW practice net on Monday at 8pm The repeater is 147.135+ 141.35 the CW portion is on HF

Mike WO9B has been joining me and setting up some practice but we are open for suggestions on where to go with this. Come join us.



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