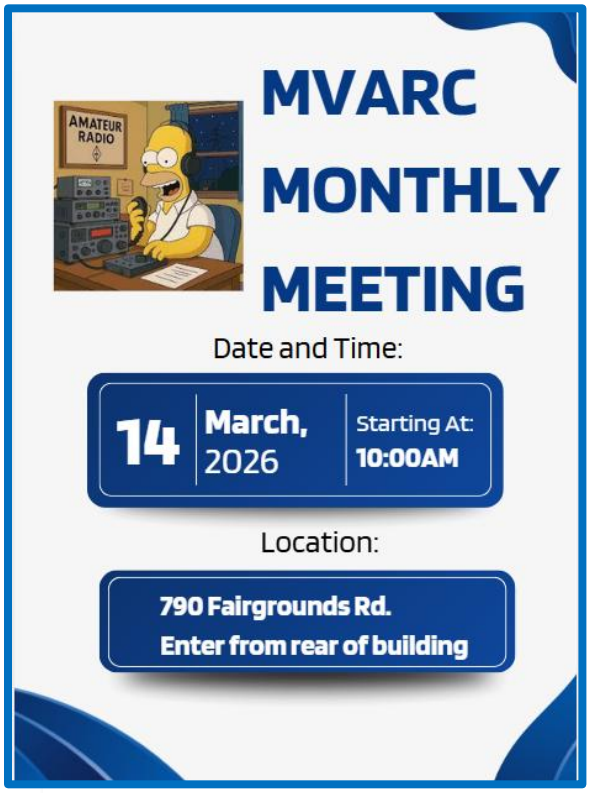
March 2026

Mount Vernon Amateur Radio Club

CQ CQ CQ



ARRL AFFILIATED CLUB

ARRL SPECIAL SERVICE CLUB

KNOX COUNTY
EST OHIO 1808

MOUNT VERNON AMATEUR RADIO CLUB
Serving Greater Knox County, Ohio

Inside this Issue:

MVARC ARES Sunday Night Net

Mount Vernon 146.790 repeater

Check-in starts at 9:00 pm

Unable to access the repeater from where you are?

We are on IRLP (EchoLink) K8EEN-R Node 809800

Presidents View

Roger, KE8ICI

Greetings All!

What a change in the weather from the conditions that we experienced during Winter Field Day at my QTH, 12 inches of snow and below zero temperatures but things have warmed very nice for the middle of February but it was just a teaser as of this writing the weather for Ohio is letting us know that it is not done with us quite yet, the snow is coming down outside and the temperatures have again dropped into the 20's so spring is still a way's off.

Scott, N8SY was talking to a group of us at breakfast last week at McDonald's and he informed us that the club was 7th in the standings for number of contacts made, not bad for just one day of operating and getting a late start due to band conditions. Great job to all the group that participated. He said that the cold conditions limited the amount of time that a lot of the clubs operated because the conditions were just cold to stay at the radio for a long duration. He visited several clubs to check in and say hello and offer encouragement and did mention that MVARC had two stations operating but he did forget to mention that it was 68 degrees in the barn, OOPS.

It was a great get together and the contests are great for learning HF operation. I am still trying to clean up all of the maintenance items around the house so I can spend more time on the radio, I used to think, boy when I retire, I will have all kinds of time to spend on the radio and get everything done around the house, well do not believe that myth, I cannot believe that I ever had time to even work!

The next club event is an Open House at Old Academy Building on March 7th at 790 Fairgrounds Road, Mount Vernon, Ohio (parking in the rear of the building) starting at 9:00 AM and going till 4:00 PM. This is a demonstration of all aspects of ham radio with a lot of equipment and operation of radios.

Terry, KI8N gave us an overview of the treasury report at the February meeting and compared the club roster from 2024 to 2026, and our membership is down by roughly 50 percent. Evan, KF8APC, the club's PIO (public information officer) has pushed out this information to the public letting anyone that may be interested in Ham Radio to come to the open house and check out all aspects of radio operation. I think that a good turnout of club members sharing their knowledge with any visitors could be a great help. If you have a little free time on the 7th stop in and give us a hand.

If you have had an opportunity to check in with the repeater in the last few days you may have noticed that the time is way off, I stopped at the water tower on the 19th of February and tried to fix it but the backup battery for the time module is down to .4 volts from 3.0 volts. This battery is soldered on the circuit board and of course I did not have anything close to a replacement, the only supplier I could find this battery was at DigiKey so I placed an order and they should be here the last week of February. I do have a spare time module to put the replacement battery on, so it will just be a matter of removing the cover and swapping them out.

I have also been working on finishing up the improvements to the repeater by adding the 100-watt amplifier to the cabinet and installing the cables going from the repeater to the amp and out of the amp down to the duplexers. I will be doing some testing on the amp as soon as the weather improves.

The new duplexers for the 444.600 MHz Kenwood repeater are still in Mansfield at Vasu Communications and are being tuned to our frequency and should be completed soon. Here is a picture of the repeater cabinet showing the Cyber power distribution strip for the supply of 115-volt AC power and a current meter, below the power strip is the Arcom controller that does the repeater ID every 10 minutes and the tones that puts the repeater into net mode.

The real time clock is also in the Arcom and keeps the time, but I think we must have had a power loss and that caused the module to lose the current time. The next item is the Hytera Repeater for the 146.790 MHz frequency that replaced one of the two Yaesu DR1X machines that we were using in the past and the bottom repeater is the other Yaesu 444.600 MHz machine that is going to be replaced as soon as Vasu is complete with the tuning of the newer equipment. Not shown is the Astron 60 Amp DC power supply that was installed last year.

The other picture is the old Yaesu DR1X Repeater that was removed from the water tower last year and does not transmit, I think it is a software issue that happens if you try and repair these repeaters, the controller will lock up the machine and keep it from working. The cost to send this out to Yaesu in California for them to unlock the machine is around $350.00, they will charge you a couple hours of labor, so it is not worth getting these fixed. If anyone in the club is interested in buying the machine, make an offer to the Directors because I am going to put it on eBay and try and sell it to help pay for the TX/RX Duplexer. The final picture is the TX/RX Duplexer that we purchased from eBay and are at Vasu.

I hope to see all of you on the 7th at the Open House and the next regular Club Meeting on **March 14, 2026,** at the Academy Building and here is a list of other 2026 up and coming events.

That's all for now! 73

NVIS Day	April 25
ARRL Field Day	June26-28
Boy Scouts Camp Demonstration	TBD
Mount Vernon First Friday	August 7
OSPOTA	September 12
Centerburg Old Time Farm Festival	September 26-27

Training Class Schedule

G. Michael, KE8HGE

Sessions meet weekly on Tuesday evenings, starting at 6:30 pm.

Study Session Schedule, 2026

Session 1 - Technician	Session 2 - General	Session 3 - Technician
2/24 – 4/14	6/30 – 8/18	10/27 – 12/15
Testing 4/15	**Testing** 8/19	**Testing** 12/26

FCC Requires FRN Contact Information Be Updated

the Federal Communications Commission (FCC) adopted changes to its rules to require that every holder of an FCC Registration Number (FRN) update their contact information in the **CORES** system (email and postal addresses) within ten business days of a change.

Because every FCC licensee including amateur radio operators—must have an FRN to file applications, this requirement applies to all licensed amateurs. FRN contact information is handled separately and apart from contact information related to a license in the **License Manager System**. Both records must be kept up-to-date, and each requires a separate update.

FCC Tutorial on updating FRN information:
https://apps.fcc.gov/cores/html/Update_FRN_Information.htm

Meeting Minutes

Darlene, WS8W

Call to Order

The February 2026 meeting of the Mount Vernon Amateur Radio Club was called to order by President Roger, KE8ICI at 10:00 AM. There were 16 members.

Minutes of the Last Meeting

The minutes of the previous meeting were approved as presented in the Club Newsletter without objection.

Treasurers Report

Terry, KI8N provided an account of the current balance of all bank accounts including deposits and expenditures of all bank accounts through January 31, 2026. There were no additions or corrections, and the report was approved as presented. Roger KE8ICI to be reimbursed $525.53 for new duplexers in the coming month.

Terry also reviewed the financial report for 2025. He presented the financial report by month for 2025 and then projected 2026 income and expenses. MVARC went from 37 members in 2025 to 32 in 2026 (to date). No questions or concerns were raised.

Committee Reports

- **Amateur Radio Emergency Service (ARES)**

  Tony, KE8OE reported on several ARES topics:

  - Community Emergency Response Team (CERT) is a group of several counties and meetings will be held in Mansfield (Richland County).
  - Local Emergency Planning Committee (LEPC) meeting discussed the tabletop exercise in March 2026. This exercise with will theme will be a railroad accident. Tony will see if they will include us, however they use a trunk system and will not "go backwards".
    - If LEPC will not include us in this tabletop exercise, Tony will consider a separate one with Ohio ARES.
  - He would like to get the Amish community more in the loop and involved with KCARES in emergencies (accidents and weather).
  - Mass communication is going well. All counties are now using Zello. Zello is a push to talk app. Tony may use Zello soon with the mass communication test.

- **American Radio Relay League (ARRL)**

  Scott, N8SY was not present, so there is no ARRL report.

- **Repeater**

  Roger, KE8ICI reported on several Repeater related topics:

  - Purchased the duplexers. The duplexers are at Vasu Communications now.
  - Roger will convert 440 to Kenwood machine by the next meeting and then will sell both Yaesu machines on eBay.

- **EchoLink**

  Don, W8PEN reported the following on EchoLink:

  - The EchoLink system is back at the clubhouse and is working well. Audio and reliability is the same or better.
  - Don donated a laptop for EchoLink use. The old one was discarded.

- **Directors**

  Frank, KC8EVS indicated that there is nothing to report from the directors this month.

Future Club Events

- Roger, KE8ICI would like to do more club Parks On The Air (POTA) events this year. Need to determine some dates.
- Open House March 7th, 9:00 AM-4:00 PM. Don, W8PEN is organizing and will email the posters to everyone for distribution and press release. There will be a couple stations set-up and Morse code demos. Frank, KC8EVS will reach out to contact at Knox Weekly.
- NVIS (Near Vertical Incident Skywave) approximate date is April 25, 2026.
- Gravel Grinder participation is uncertain.
- Field Day 2026 is June 26-28, 2026.
- Other misc. events:
  - Boy Scouts
  - First Friday
  - Old Time Farm Festival

Old Business

- 12 people attended Winter Field Day. Made 611 contacts even though the day was cut short due to weather. Everyone had a good time.
- Emery, W8TW remarked that the last newsletter was excellent and thanked everyone who contributed.
- Terry, KI8N mentioned that the club is now listed on HearHam.com

New Business

- Frank, KC8EVS proposed that the club Go Box be revamped and updated. Tom, KD8HSA explained some of the history and reasons for the current Go Box setup and contents. Some suggestions and recommendations made include:

  - Maybe split into two boxes rather than one due to the weight of one box.
  - Different types of box
  - Include more antennas
  - Remove Signal Link and just include the Digirig
  - Replace tuner and Headset, both of which are not working properly.
  - Maybe leave as one box but reduce the contents.
  - Don, W8PEN made a motion that it be turned over to the Board of Trustees and Directors will decide what is needed and purchase what is needed. Don, KB8QPO seconded the motion.

- Frank, KC8EVS reported that the club is on the schedule for Apple Valley for Field Day.
- Frank will also call about some of the club building issues.
- Tony, KE8OE mentioned that the person who runs HamClock has passed away. There is now "Open Ham Clock" that has many of the same features as well as some more features. It is also free of charge.
- There is a Weather Spotter class on February 24th in Mt. Gilead. There will be one in Knox County in April, however there is no location listed yet.
- Terry, KI8N mentioned that he listened to "Amateur Radio News". This 15–20-minute news stream that is done every Friday afternoon can be downloaded online and played on the repeater. There was some discussion about playing it on the club repeater at the end of the weekly net on Sunday.

Don Bunner, KB8QPO won the 50/50 raffle.

Meeting adjourned, motion by Tony, KE8OE and Emery, W8TW second.

Present at the January Club Meeting

Don, KB8QPO	Tom, KD8HSA	George, KE8HGE	Kevin, KD8NGV
Frank, KC8EVS	Tony, KE8OOE	Emery, W8TW	Barry, N8PPF
Don, W8PEN	Les, WA1LES	Roger, KE8ICI	Nathan, KE0RYO
Terry, KI8N	Evan, KF8APC	Darlene, WS8W	Rick

MVARC Calendar / Events

WEEKLY EVENTS

Sunday: 9:00 PM ARES Sunday Night Net
Wednesday: 4:45 PM — Dinner at Southside Restaurant
Friday: 9:00 AM Breakfast—McDonalds on Newark Rd.

"Insanity is doing the same thing, over and over again, but expecting different results." Narcotics Anonymous

ARES

Tony, KE8OOE – Knox County EC

VARAC – A Modern Digital Mode for Ham Radio

In the world of amateur (ham) radio, **VARAC** is a powerful digital communication application built around the VARA modem system. Designed primarily for keyboard-to-keyboard (K2K) chatting, messaging, and weak-signal communication, VARAC combines the reliability of traditional digital modes with modern messaging features.

What Is VARAC?

VARAC is software that works with the **VARA modem** (HF or FM versions) to enable:

- Real-time text chatting (like instant messaging over radio)
- Store-and-forward messaging
- Emergency communications capability
- Beaconing and station discovery
- File transfers
- Forms-based messaging

It operates over standard amateur radio HF or VHF/UHF bands using your radio, computer, and audio interface.

How It Works

VARAC uses the VARA modem protocol, which is known for:

- High efficiency
- Strong weak-signal performance
- Adaptive speed control
- Error correction

When connected, two stations establish a link like a digital handshake. Once connected, operators can:

- Chat live
- Send structured messages
- Transfer small files
- Relay messages through other stations

It functions somewhat like Winlink but is more conversational and community oriented.

Key Features

Real-Time Keyboard-to-Keyboard Chat
Direct two-way digital conversation with another ham operator.

Beacon Network
Stations can beacon automatically, so others know they're available.

Store-and-Forward Messaging
If a station isn't online, messages can be held and forwarded later.

Emergency Communications
VARAC supports ICS forms and structured messages, making it useful for **ARES and emergency nets.**

Secure Connection Layer
While not encrypted (encryption is generally prohibited on amateur bands in many countries), it uses connection validation to ensure message integrity.

Equipment Needed
To use VARAC, you typically need:

- An HF or VHF/UHF transceiver
- A computer (Windows)
- Audio interface (Signal ink, built-in USB soundcard radio, etc.)
- VARA modem software (HF or FM)
- VARAC software

It integrates with common logging software and CAT control systems.

Why Hams Like VARAC

- Feels like digital "chat rooms" over HF
- Works well in poor band conditions
- Cleaner interface than many legacy digital tools
- Community-driven development
- Ideal for rag chewing or structured comms

Many operators appreciate that it bridges the gap between casual digital chatting and formal message systems like Winlink.

VARAC vs Other Digital Modes

Mode	Primary Use	Speed	Messaging
FT8	Weak signal contacts	Fast	No chat
PSK31	Keyboard chat	Moderate	Basic
Winlink	Email over radio	Moderate	Structured
VARAC	Chat + Messaging	Adaptive	Advanced

Final Thoughts

VARAC represents the evolution of amateur radio digital communication. It combines the spirit of traditional HF rag chewing with modern messaging capabilities and emergency functionality.

If you're licensed and comfortable with digital modes, VARAC is worth exploring.

"You've gotta dance like there's nobody watching,
Love like you'll never be hurt,
Sing like there's nobody listening,
And live like it's heaven on earth."
—William W. Purkey

My Adventures in Ham Radio

Don, W8PEN

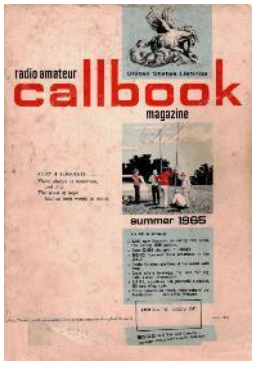
Assisted by Microsoft Copilot

Chapter 7: My First Field Day

Spring of 1965 passed quietly for me. My days followed a simple rhythm: school, then home to get on the air until Mom called for dinner, followed by homework. My weekly chats with Chuck continued until the semester ended, when he returned home for the summer.

That summer brought a few memorable moments.

Chuck applied for a job at Hartman Electrical in Mansfield, Ohio, a company that manufactured relay components for electrical circuits. I never knew his exact responsibilities, but I believe he eventually worked in Quality Control. Unlike me, Chuck had a busy social life. His routine was work during the day, evenings with friends, and little time left for ham radio.



My social life, on the other hand, was ham radio. When I wasn't on the air, I was out bass fishing with dad at the local lake. Just like radio, fishing never grew old - and it's something I still enjoy today.

That summer, my longtime friend Jack was inspired by my enthusiasm and earned his ham license. Jack had more financial resources than I did, and he purchased a Knight Kit T-60 transmitter along with a Knight Kit R-55A receiver. I'll admit, I was a little envious - his setup was a big step up from mine, especially the receiver.

Jack and I had a blast that year. We'd known each other practically forever and had become best friends over the years. I spent many evenings operating his station, and he often came over to use mine - never once complaining about my less capable receiver.

Jack eventually drifted away from ham radio, only to surprise me in the mid-1980s when he showed up at my house with a station in the trunk of his car. He had just come from a hamfest and stopped by on his way home to Columbus, eager to show me his new gear. Although we didn't see each other often, we stayed in touch - and even today we occasionally exchange texts.

Toward the end of June 1965, the radio club began talking about something called "Field Day." I had no idea what it was, only that it was some kind of operating event. I was told to meet at Memorial Park on Friday evening to help set up antennas and equipment, then return Saturday afternoon prepared to stay all night. I needed Mom's approval, but one of the club members had already explained the event to her, and she was excited for me to take part.

When I arrived at the park, I watched a National Guard truck deliver a generator to our site. One of the requirements was to operate on emergency power, and this was a ten-kilowatt generator. It was loud!

I threw myself into helping the adults string dipoles into the trees. Then came the big job: raising a temporary tower with a massive 10 - 20-meter beam. The tower had four sections and stood about 40 feet tall. It took every available hand to raise it and secure the guy wires. With the heavy antenna and rotor at

the top, the tower was tricky to hold steady, but the group clearly had experience. Everything went up smoothly.

Next, we set up the stations. There were two: each with a Johnson Viking II transmitter, capable of 160 watts input on CW or AM. The receivers were Hammarlund HQ-110s, the same models I had seen at the Dayton University club station. Hammarlund must have sold a lot of those rigs.

I don't recall seeing a 6-meter station for the Technician Class hams; everything was geared toward HF.

By the time I went home, I was exhausted. We had put in a tremendous amount of work.

Saturday afternoon I returned to the site. Field Day hadn't officially started yet, but the club was already making contacts to test the equipment. Spirits were high.

Once the event began, however, I found myself with little to do. There was no Novice station set up, and the club was running only one phone station and one CW station. I spent most of my time watching, a bit bored, but determined that next year would be different. By then, I planned to have my general license and finally get on the air.

According to the December 1965 issue of *QST*, our club made 217 contacts for a score of 434. I don't recall how many were CW versus phone, but I do remember that Field Day was a great experience. I learned a lot about antennas, station setup, and the equipment of that era.

Another highlight of that summer was seeing my name in print. I submitted a report to *Popular Electronics*, and to my delight, it was published alongside others. I hadn't sent in a photo, but seeing my name and call sign in the magazine was thrilling, a perfect exclamation point to my first encounter with that publication.

satellites in conjunction with a special high-sensitivity converter . . . **Don Russell, WN8ODK,** 109 Coshocton Ave., Mt. Vernon, Ohio, has two inverted V antennas and a "long wire" to connect him to the ionosphere. A Heathkit DX-35 transmitter with an antenna coupler pumps electrons into them, and a Knight-Kit "Span Master" receiver handles the reverse path. The scene of the action is 80 and 40 meters, and the results are 20 states and Canada worked . . . **Jim Cannon, WN6NXK,** 1106 Mary Ave., Sunnyvale, Calif., tried unsuccessfully

Spotlight: The Knight Kit T-60 & R-55A

In the 1960s, Allied Radio's **Knight Kit line** was a popular choice for newcomers to amateur radio. Kits were affordable, build-it-yourself projects that gave hobbyists both equipment and hands-on experience.

- **Knight Kit T-60 Transmitter (1960–1965)**
  - Entry-level transmitter designed for Novice and General Class hams.
  - Covered 80 through 6 meters, with about 60 watts input on CW and AM.
  - Simple design made it easy to build, but it had quirks—like chirpy CW if not carefully adjusted.
  - For many beginners, it was the first "real" transmitter beyond crystal-controlled rigs.
- **Knight Kit R-55A Receiver (introduced 1962)**
  - Matching companion to the T-60, styled with the same gray panel and knobs.
  - Covered 80 through 6 meters with a superheterodyne design.
  - Not high-end, but a big step up from basic receivers—offering band spread tuning and better selectivity.
  - Affordable enough that many Novices could finally enjoy smoother listening.

Together, the **T-60/R-55A pair** gave countless young operators their first taste of "serious" ham radio. They weren't perfect, but they were accessible, and they opened the door to the wider world of amateur radio for a generation.

"Have you ever noticed that anybody driving slower than you is an idiot, and anyone going faster than you is a maniac?" — George Carlin

Miscellaneous Rambling

Terry, KI8N

This month I finally reached my full retirement age, as least according to the Social Security Administration! Now I just have to act my age when my brain says "you can do that" and remember that lifting heavy items, bending over wrong, or sitting on uncomfortable surfaces is going to hurt afterwards. Another age reminder is health issues. I had blood work and an MRI to try and figure out what is going on with my newly acquired shaky hands and dizziness. All tests so far say I am normal (shows what they know!). My late father-in-law Fred, WA8KJJ (SK) said health care is like Las Vegas medicine – one big dice roll. I am sure more testing is required.

I completed Skywarn Weather Spotter training this month at the EMA office in Mount Gilead. There were about 20 of us present for an NWS meteorologist led class. The presentation has changed quite a bit to make it more relevant and get away from showing those old tornado and cloud photos. The class is still about two hours but seemed easier to follow and more infomative. Note, there are local classes scheduled for March in Bellville and April in Mount Vernon. Cleveland weather spotter training schedule.

Hamfest time is upon us! Have you checked the schedule link located a few pages down in this newsletter? I have committed to attending two in March; NOAR Hamfest in Elyria and Toledo Hamfest in Perrysburg. Not that I need anything, but it is a responsibility that goes along with being the Ohio section Affiliated Club Coordinator. I am planning to turn both of these trips into POTA activations on the way home, if the weather permits.

ON AIR This month I have been chasing a few DX-peditions. The ones I contacted are; **KP5/NP3VI -** Desecheo Island, **8R1WA -** Guyana, **TY5GG -** Benin, and **J51A -** Guinea-Bissau. Most of these I have contacts on more than one band. Seemed like a thing to do when the weather was cold and my ambition to work in the garage was low. I also participated in the CQ WPX RTTY contest 2/14 through 2/15. I only played radio for about four hours and made 208 contacts.

A home project I am just about finished with is removing wallpaper from one wall in a bathroom that has been up about 20 years. Have you ever had to remove wallpaper? I am convinced it is meant to go up and never come down. I said a few things to it as I removed it little by little such as calling it a menace and "the child of Satan". And lets not forget the joy of removing the toliet tank to remove this menace installed behind it.

I am convinced people buying this stuff in home improvement stores have no idea how difficult it will be to remove when they decide to redecorate. Not only the mess from using the remover liquids but then patching the drywall areas (noted as "bad" in the image) that this menace pulls off as it comes free, which are gauranteed to occur. Next is the fun of spreading and sanding joint compound to smooth the "bad" surface along with cleaning up that mess. Then there is the soon to be fun of repainting the wall. The good thing is this is the only part of redecorating this bathroom that I am doing. We have a contractor coming to hang the new tile and replace the fixtures, mirror, and vanity/sink.

The last thing I started working on this month is removing the engine from our 1969 Mustang. It has been inoperable since last summer when it just wouldn't start. So far I have removed the front grill, fan and radiator, carburetor, distributor, air conditioning components (was inoperable so there was no R134 in the system) and water pump. Next up is the harmonic balancer and then disconecting everything else attached to the engine and lifting it out of the bay. I know the timing chain is no longer turning the camshaft so there is concern about what else was damaged when it let go. Only one way to find out and that is removing the cylinder heads.

I now have two car projects going at the same time. The engine to the 1964 Galaxy is assembled and the oil pump has been spun to prime the system with break-in oil. Just need to finish working on the engine bay and I will be able to do that when the temp rises a little more so I can paint the remaining parts. Then the engine and transmission can be reinstalled.

It seems that I can't go without stating I did another POTA activation. This time it was at Mohican State Park (US-1977) to complete the Oasis activator and Kilo awards. I made 73 SSB contacts on three bands in about 75 minutes. This activation results in 20 visits to this park and over 1000 contacts. Next will be planning an activation in Mohican-Memorial State Forest (US-5444).

I have to admit I planned to work Mohican State Park earlier this month. I went there, set up my antenna, and started to set up the radio when I realized I forgot to bring a battery to power the radio. I then packed everything away, told myself it was a good day for a car ride, and went home. I refuse to power the radio from the truck battery and then be sitting in a park with a vehicle that will not start. Later that night I made a checklist that now hangs in the building reminding me to check that everything is packed.

That's it for this month. See you at the meeting on the 14th. – "Stay safe and Ham it UP"! 73

Final Takeaway

Emergency Communications Basics

This month's continuation of ham radio survival topics is about Antennas. You must have a working antenna before any of the other previous topics are viable. The antenna is critical because it determines how far and how reliably operators can communicate when normal infrastructure is down.

What makes an antenna "good" for emergency situations?

First the operator must be aware that antenna selection and operation is dependent on space allocated, portability, terrain, and type of communication needed (local versus long-distance). Good emergency antennas share these five traits:

1. Quick deployment

The antenna should be easy to set up without tools and multiple personnel needed. There is no need for overly long dipole antennas that require tall supports and lots of effort to deploy. Another part of deployment is it must be ready when needed as you will not have time to build an antenna or search the far corners of your garage looking for where you stashed it last time it was tested/used.

2. Multiband capability

An antenna that works on the designed frequencies; HF or VHF/UHF. This is going to require separate antennas for HF and VHF/UHF if needed for your deployment. Typically, emergency HF antennas are designed to be used with 80 and 40 meters. A VHF or UHF antenna is used to communicate with a repeater or via simplex to relay information to the operations center.

3. Compact

The antenna cannot occupy too much space and must be able to deploy in temporary situations. The antenna must require minimal amounts of real estate so that it doesn't interfere with emergency operations in progress.

4. Good performance

The antenna must have reasonable range in noisy environments and be able to communicate clearly to the operations center. This is not the time to have an antenna that is a better dummy load than a good radiator.

5. Durable

The antenna must be able to withstand wind, rain, and especially rough handling. This should stipulate that flimsy materials of construction or mishandling will not result in a durable antenna.

Types of emergency communication antennas

This section is broken into two parts: VHF/UHF and HF antennas. In a local disaster, most communications can be handled via regional communications requiring the responder to deploy with either a mobile dual band radio and a battery or a dual band handheld radio. Of course, the emergency team must be aware of the terrain and environment of the deployment. A 5-watt handheld radio with a rubber duck antenna may not be sufficient for the need and will require a higher power, possibly a portable mobile radio and antenna.

A. VHF/UHF Antennas

☐ Rubber duck antenna

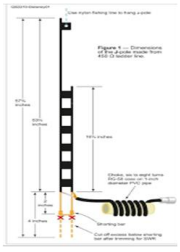
These are the short vertical antennas that come with most handheld radios. A lot of time operators change these to the longer (15") flexible antennas available from most retailers. The rubber duck is extremely portable but has a very limited range, especially indoors or terrain limiting areas. The extended flexible dual band handheld antennas provide some capability for communications where rubber ducks are not so good.

☐ Magnetic mount antenna

The mag mount antenna is usually mounted on a vehicle's roof so that the car is a ground plane. This would work if the operator is deployed to a remote location. However, a mag mount could be used indoors close to a window if attached to a metal surface, even something like a baking sheet. The longer coax on mag mounts would allow the operator to be closer to the ongoing discussions yet still be able to communicate with the operations center. This configuration would be usable with a portable mobile radio. A benefit to this antenna is quick deployment during evacuations.

☐ Roll up J-pole or Slim Jim

SLIM JIM ANTENNA



Roll up J-Pole

These types of antennas are quickly deployed, very portable, and can be homemade. These can be made from ladder line or wire and fit in emergency go bags easily. They can be hung from a tree, balcony, window, and I have even hung a ladder line J-pole from a reachable gutter. I would classify these antennas as portable and they work well in shelter situations, in a damaged home, or a temporary command post. Plans for these antennas can be found on the Internet.

☐ Mobile whip antenna

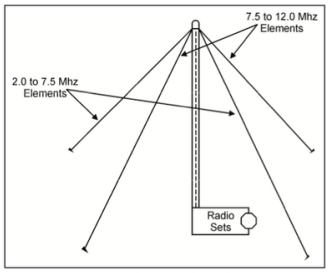
These antennas are available from ham radio retailers and are usually permanently mounted on a vehicle. They are useful with a mobile radio when driving between deployment locations. However, this type of antenna could be mounted on a tripod and set up at a shelter or remote location to provide more gain and enhanced ability to communicate in tougher RF locations.

The VHF/UHF antenna you select will be a personal choice which you feel allows you to deploy and communicate clearly with the command/operations center. The choice will also depend on the situation and where you will be deployed. If you are working from the communications center, then a permanently mounted vertical antenna with higher gain values is going to be the logical decision. In the field the above-described antennas will work if they fit the five items for working with an emergency or disaster.

B. HF Antennas

Antennas for HF frequencies must also meet the five requirements for usage during deployments. There may be limited need for HF during a disaster, but a good operator will have at least one antenna that can be deployed and be useable on 80 and 40 meters if the need arises. Some types of HF antennas that might meet this need are:

☐ NVIS Antenna



NVIS antenna, AS-2259/GR

This antenna is typically a low dipole about 3 to 10 feet above ground and used when hilly, heavily forested, or mountainous terrain prevents the use of VHF. Another use would be in the case of wide regional disasters where VHF doesn't have the needed range. Using this type of antenna sends the signals nearly straight up where they come back down with a useable range of less than 300 miles. This dipole can be put up as an inverted V to minimize space requirements. There are many differing types of NVIS antennas, and a search of the internet will yield plans. Another idea is to attend NVIS day to see what is used and what club members have built.

☐ End-fed Wire Antenna

These antennas work well on HF and will only require one support, such as a tree or building. There are kits available that are inexpensive or you can build your own with easily obtained materials. Note that a tuner and counterpoise will be needed. These antennas are easy to deploy, given the space requirements and useable for improvised setups.

☐ Portable Vertical HF Antenna

This straight up antenna provides good omnidirectional coverage and works when space and height are limited. There are various manufacturers that have developed vertical antennas for portable usage and support the required frequency bands with a tuner. However, some of these antenna types require ground radials which may not work well within the space allocated or may be limited by overhead trees. A good reference for this type of antenna is the DX Commander Classic or the Comet CHA-250HD.

☐ Magnetic Loop Antenna

These antennas work well when space is limited as they are small sized and have quiet receive properties. They are portable and will fit on balconies, park tables or other space-limited areas. However, a few of drawbacks are they are relatively expensive, require re-tuning with small frequency changes, highly directional, may not cover 80 meters, and most are rated for low or QRP power output levels (less than 25 watts).

☐ Dipole Antenna

One use for a simple dipole antenna is in an inverted V configuration to conserve space. These antennas have a simple design and can be purchased but also homemade with wire, a balun, and insulators. A dipole exhibits very predictable results on HF bands. The drawback is an 80-meter capable antenna is long and may not fit in tight spaces, but traps can be installed to shorten the overall length. Another requirement is the antenna must be supported at both ends and, in the center, or feed location.

I intentionally left Yagi antennas out of the HF list as they do not meet most of the five deployment requirements need in an emergency deployment.

The best operators improvise with available materials and may use existing structures to meet their requirements. Some examples are using gutters, fences, and even TV towers to make an HF or even VHF antenna.

What Configuration is Most Realistic in Different Disaster Scenarios

The scenarios in this section are those most likely to occur in Central Ohio and not all over the United States. Tornado or flood aftermath – VHF with a mag mount or dual band vertical mounted on a vehicle or a handheld radio since most responders will be going to local shelters to provide communication assistance with Red Cross activities. Regional infrastructure collapse may require both VHF and HF capabilities. An NVIS or end-fed antenna for HF operation along with a VHF radio and antennas. Since we do not experience large rural wildfires or earthquakes this would not be an area of concern for local deployments.

Next month this emergency communications article completes with an operator deployment checklist.

ARRL Sanctioned Hamfests

https://arrl-ohio.org/hamfests/

2026 Upcoming MVARC Events

NVIS Day	April 25
ARRL Field Day	June 26-28
Mount Vernon First Friday	August 7
OSPOTA	September 12
Centerburg Old Time Farm Festival	September 26-27
Club POTA	TBD

Ham Radio Contest Calendar

From Clattering Keys to Digital Streams: A Short History of Teletype in Amateur Radio

Don, W8PEN

Assisted by Microsoft Copilot

If you've ever heard the rhythmic chatter of a Model 28 in full flight—or watched a modern terminal window scroll with RTTY—you've experienced one of the most iconic sounds in radio history. Long before keyboards and screens became everyday tools, the teletypewriter revolutionized how people communicated across distance. For hams, it opened a new world of keyboard-to-keyboard conversation that still echoes through our bands today.

The Birth of the Teletypewriter

The story begins in the late 19th and early 20th centuries, when inventors sought ways to automate telegraphy. Instead of hand-keyed Morse, they envisioned machines that could type messages directly. Early pioneers like Donald Murray and Charles Krum developed systems that encoded characters into fixed-length patterns—an essential step toward machine-readable communication.

By the 1920s, the Teletype Corporation (later acquired by Western Electric) introduced rugged, reliable machines that soon became staples of newsrooms, railroads, military networks, and government agencies. These devices—massive, mechanical, and unmistakably loud—could send and receive text over wires at speeds that made manual telegraphy seem quaint.

Enter Amateur Radio

Hams began experimenting with radioteletype (RTTY) in the 1930s, but it wasn't until after World War II that surplus equipment and improved technology made it practical. Suddenly, amateurs could bring home the same gear used by the military and press services.

The classic setup included:

- A Teletype machine (often a Model 15, 19, 28, or 32)
- A converter or terminal unit to translate audio tones into mark and space signals
- A transmitter running frequency-shift keying (FSK)

The result was magical: real-time typed conversations over the air, complete with the distinctive clatter of typebars and the smell of warm oil.

The Golden Age of RTTY

By the 1950s and 60s, RTTY had become one of the most popular digital modes in amateur radio. Clubs formed around it, contests sprang up, and newsletters were filled with tips on keeping machines aligned, lubricated, and on frequency. Operators swapped tricks for reducing "garbage characters," adjusting bias magnets, and coaxing aging machines into smooth operation.

The mode had a personality all its own. A Model 28 hammering out a DX contact was as much a part of ham culture as the glow of vacuum tubes or the hum of a plate transformer.

From Iron to Silicon

The arrival of solid-state electronics and personal computers in the 1970s and 80s changed everything. Mechanical teletypes gave way to electronic terminals, then to software running on home computers. Baudot code remained, but the machines that weighed 200 pounds were replaced by programs that fit on a floppy disk.

Today, RTTY lives on through sound-card interfaces, digital mode software, and modern contesting. The mechanical beasts may be rare, but their legacy is alive every time a ham fires up MMTTY, Fldigi, or a modern SDR and watches those familiar mark-and-space tones dance across the waterfall.

Why Teletype Still Matters

Even in an age of FT8 and high-speed digital modes, teletype holds a special place in amateur radio:

- It was the first true keyboard-to-keyboard mode
- It bridged the gap between mechanical and digital communication
- It inspired generations of hams to explore data modes
- It remains a living link to the earliest days of electronic messaging

For many operators, the sound of a teletype machine is more than nostalgia—it's the heartbeat of an era when radio, mechanics, and ingenuity came together in a uniquely satisfying way.

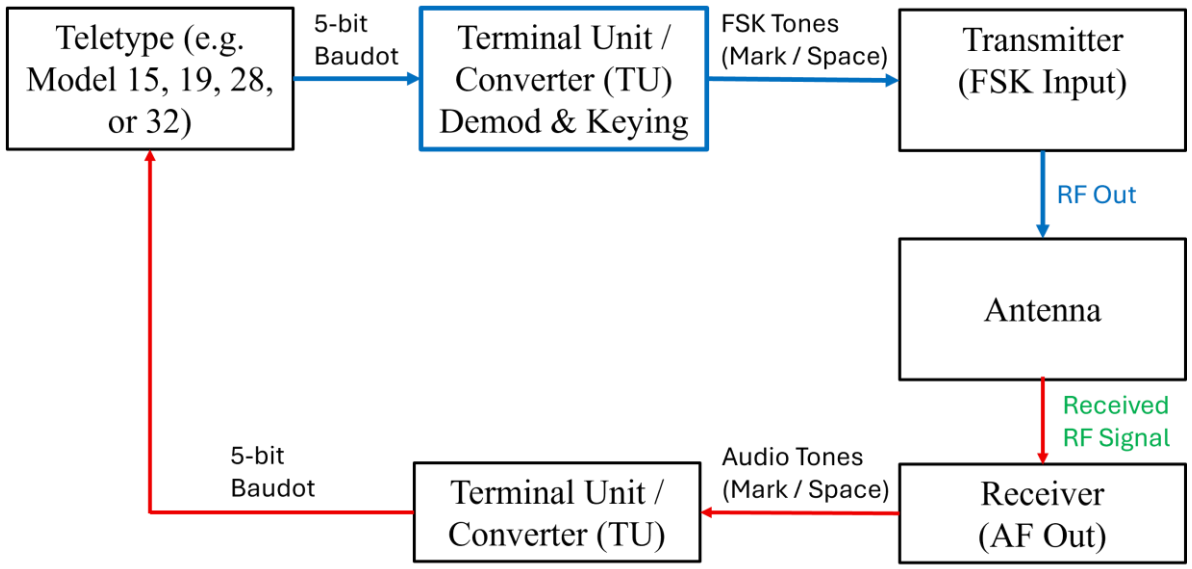
Absolutely — here's a clean, newsletter-ready sidebar plus an easy-to-read block diagram of a typical 1960s ham RTTY station. I've written it to match the tone and style of the main article you already have.

How a 1960s Ham RTTY Station Worked

Radioteletype in the 1960s was a beautiful blend of heavy machinery, glowing tubes, and clever signal conversion. Unlike today's sound-card setups, a classic RTTY station required several distinct pieces of gear, each doing one job extremely well. The magic happened when they all worked together in perfect mechanical and electrical harmony.

Below is a simplified block diagram showing the signal flow from keyboard to antenna — and back again.

1960s-Era Amateur RTTY Station



Teletype Machine

- Generated and printed 5-bit Baudot code
- Provided the familiar clatter and mechanical charm
- Often required oiling, adjustment, and a strong table

Terminal Unit (Tu)

- The heart of the system
- Converted Baudot pulses into audio tones (mark/space) for transmit
- Demodulated received tones back into Baudot for the teletype
- Used filters, limiters, and a mechanical or electronic "discriminator"

Transmitter

- Shifted between two RF frequencies (FSK) based on TU tones
- Typically tube-type rigs like the Heathkit DX-100, Johnson Viking, or Collins gear

Receiver

- Provided stable audio output to the TU
- Selectivity and frequency stability were critical for clean copy

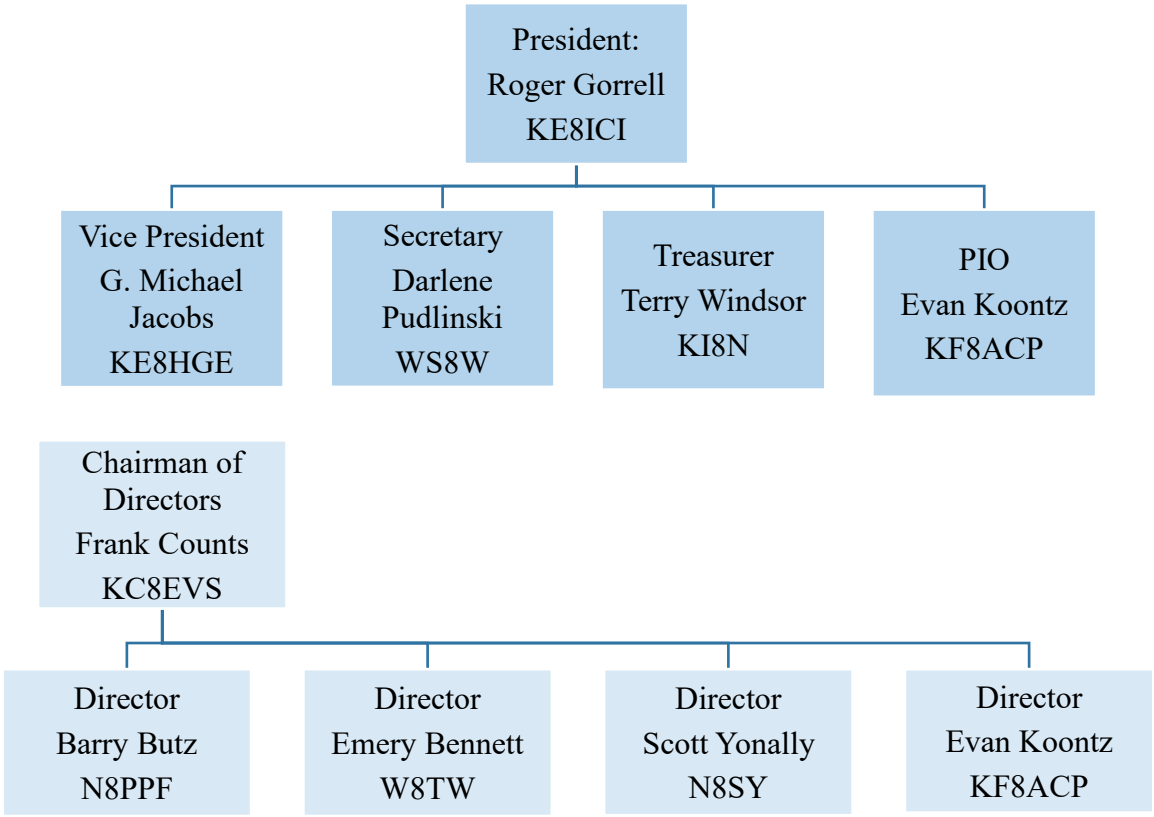
Antenna

- Any HF antenna worked, but RTTY operators favored stable, broadband designs
- Dipoles, verticals, and beams were all common

Why this Setup Mattered

This architecture defined amateur RTTY for decades. It was rugged, hands-on, and deeply satisfying. Every component had personality — from the warm drift of a tube VFO to the rhythmic chatter of a Model 28 hammering out a DX contact. Modern software may be quieter and cleaner, but the signal path above is the one that built the foundation of digital amateur radio.

MVARC 2026 Club Officers



The MVARC CQ Newsletter is delivered to club members via email containing a link to the MVARC webpage, Newsletters button.

** MVARC CQ is the official newsletter of the Mount Vernon Amateur Radio Club. **

Contact Us

Mailing Address
812 Coshocton Ave.
PMB #145
Mount Vernon, OH 43050

Web Page
mvarc.net

Facebook Page
https://www.facebook.com/mvarc

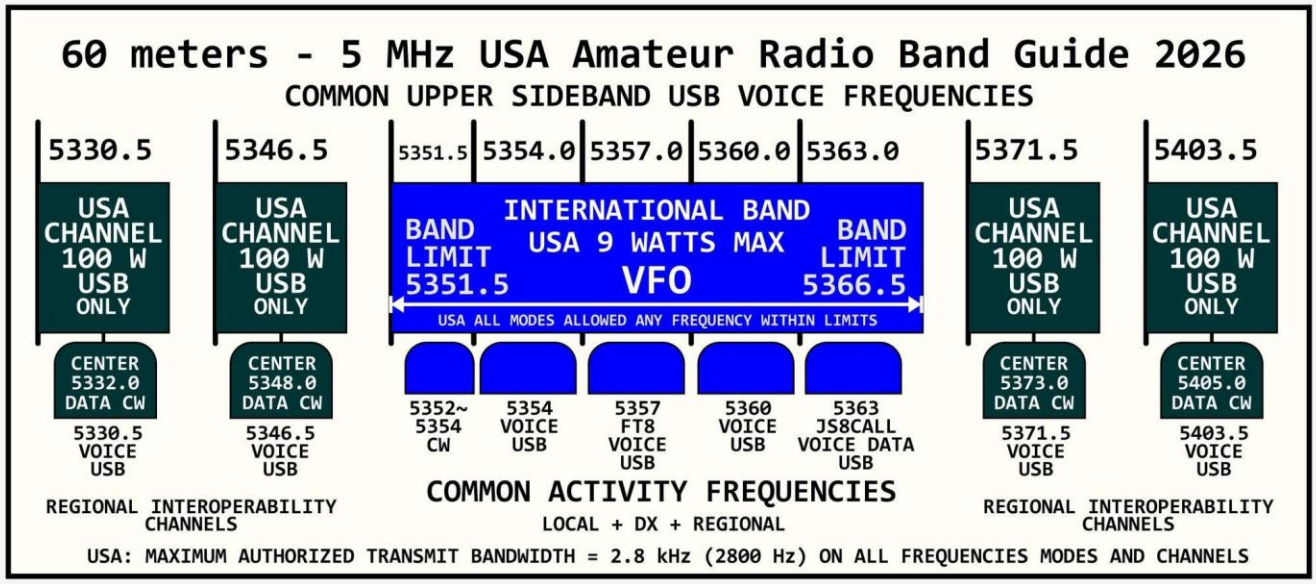
MVARC Email
admin@mvarc.net

Last Page - 60-Meter Band Changes

The Federal Communications Commission (FCC) released a long-awaited Report and Order adopting a new amateur radio spectrum allocation in the 60-meter band that was approved for world-wide use on a secondary basis in the WRC-15 (World Radiocommunication Conference 2015) *Final Acts*. The Commission also agreed with a petition from ARRL, The National Association for Amateur Radio® to continue allowing amateur operations on four existing 60-meter channels outside the international allocation with a full 100 watts.

Specifically, the Commission allocated 5351.5 - 5366.5 kHz (60 meters) to the amateur service **on a secondary basis *with a permitted power of 9.15 watts ERP***. The Commission also authorized amateurs to continue using four existing channels outside of the 5351.5 - 5366.5 kHz band centered on 5332, 5348, 5373, and 5405 kHz on a secondary basis with a permitted power of 100 watts ERP. There are no antenna restrictions, but antenna gain must be used to calculate ERP. These new frequency allocations went into effect February 13, 2026.

The 60-meter allocation is available to amateurs holding a General Class or above license. The maximum permissible signal bandwidth is 2.8 kHz. Amateurs are cautioned that this allocation is strictly on a secondary basis, and amateurs must avoid interfering with non-amateur stations using this spectrum.



FCC Amateur Radio Service Regulations - Selected excerpts for reference purposes - Effective 13 February 2026.

§ 97.303 Frequency sharing requirements. (h) Amateur stations transmitting on frequencies in the 60 m band must not cause harmful interference to, and must accept interference from, stations authorized by:
(1) The United States (NTIA and FCC) and other nations in the fixed service; and
(2) Other nations in the mobile except aeronautical mobile service. (3) In the 5330.5-5406.4 kHz band (60 m band), amateur stations may transmit only in the 5351.5-5366.5 kHz band and on the four center frequencies specified in the table below. For the discrete channels, control operators of stations transmitting phone, data, and RTTY emissions (emission designators 2K80J3E, 2K80J2D, and 60H0J2B, respectively) may set the carrier frequency 1.5 kHz below the center frequency as specified in the table below. For CW emissions (emission designator 150HA1A), the carrier frequency is set to the center frequency. For all 60 m spectrum, Amateur operators shall ensure that their emissions do not occupy more than 2.8 kHz.

§ 97.313 Transmitter power standards. (i) 60 m band power requirements: No station may transmit on the frequencies 5.332, 5.348, 5.373, and 5.405 MHz in the 60 m band with a radiated power exceeding 100 W ERP. No station may transmit in the 5.3515-5.3665 MHz band with a radiated power exceeding 9.15 W ERP. For the purpose of computing ERP, the transmitter PEP will be multiplied by the antenna gain relative to a half-wave dipole antenna. A half-wave dipole antenna will be presumed to have a gain of 1 (0 dBd). Licensees using other antennas must maintain in their station records either the antenna manufacturer's data on the antenna gain or calculations of the antenna gain.

Footnote (23) US23 The band 5351.5-5366.5 kHz (60 m band) is allocated to the amateur service on a secondary basis. In the band 5330.5-5406.4 kHz, the assigned frequencies 5332, 5348, 5373, and 5405 kHz are allocated to the amateur service on a secondary basis. Amateur service use of these four frequencies is restricted to a maximum effective radiated power of 100 W PEP and to the following emission types and designators: phone (2K80J3E), data (2K80J2D), RTTY (60H0J2B), and CW (150HA1A). Amateur service use of the 60m band frequencies must meet the requirements in part 97 of these rules. Amateur operators using the data and RTTY emissions must exercise care to limit the length of transmissions so as to avoid causing harmful interference to Federal stations. SOURCE: 2026 HFLINK CC-BY. VERSION 2026B

Mt. Vernon Amateur Radio Club

OPEN HOUSE

Saturday, March 7, 2026
9:00 AM to 4:00PM

Old Academy Building (2nd Floor)

790 Fairgrounds Road, Mt. Vernon, Ohio
Use the back parking lot Entrance

- **Hear Worldwide contacts during the ARRL International DX Contest**
- **See Morse Code Demonstrations**
- **Observe typical Ham Radio equipment in action**
- **Make a few contacts**
- **Enjoy refreshments**

Stop by, explore and discover the exciting world of amateur radio!