Q-FIVER

THE OFFICIAL NEWSLETTER OF THE OH-KY-IN AMATEUR RADIO SOCIETY
CINCINNATI, OHIO – WWW.OHKYIN.ORG
VOLUME 65 ISSUE 6 – JUNE 2025

In this issue:

- Radio & Model Rockets
- Library Additions
- Silent Key: N8WBP
- Much more!

◆ Hamvention 2025 day 2 admission line

Photo by Andrew Hayden K8ARH

Brunch Bunch

by Bruce Vanselow, N8BV

The next Brunch Bunch will be held Saturday, June 14th, at 1pm. The location for June is Kirby's Tavern in Loveland. Kirby's is located at 4378 Bridge Street, 45140. Kirby's Tavern is less than 1 mile off I-275's Loveland/Indian Hill exit #52.

> "Kirby's Tavern opened in 2012 in Loveland, Ohio. Since then, our friendly crew has been serving quality homemade classic dishes and favorites from both the eastern and southern shores.
>
> We are found just a block from both the little Miami river and the well-known Loveland bike trail. Enjoy the day in Loveland, or on trail then spend some time with us at Kirby's."

For a look at the menu, go to: www.kirbysinloveland.com

Remember that the Brunch Bunch always meets the second Saturday of every month at 1pm at a location to be announced each month. If you can't join us this month, maybe you'll be available to join us in the months ahead.

I'm always looking for suggestions on what restaurant you think might be a good place for the Brunch Bunch to visit in the future.

73, …… Bruce N8BV

Hamvention & Flying Pig Photos

Andrew Hayden K8ARH shared photos from both events. You may view more of his Flying Pig 2025 photos at https://photos.app.goo.gl/h9NMJ3VzxjtuBK4A8 and some of his Hamvention 2025 photos at https://photos.app.goo.gl/7k1KGEQSDPd5rBRZ7

Photo by Andrew Hayden K8ARH

Photo by Andrew Hayden K8ARH

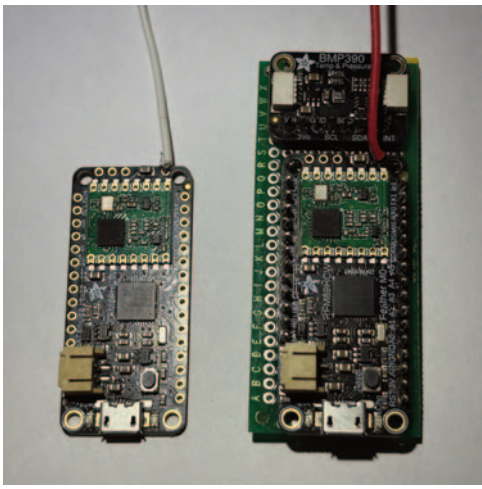
Combining Amateur Radio with Model Rocketry (Part 1)

by George Gardei, N3VQW

The integration of amateur radio into model rocketry opens up fascinating possibilities for enhancing both the scientific and recreational aspects of both hobbies. It transforms a typical rocket launch into a platform for real-time experimentation and data acquisition. Whereas traditional model rocketry often relies on post-launch recovery of data loggers, combining radio communication enables enthusiasts to monitor flight parameters such as altitude, temperature, and velocity while the rocket is still in flight.

Furthermore, amateur radio provides a reliable and versatile communication method that can be tailored to specific needs. Beyond the technical advantages, incorporating amateur radio fosters creativity and innovation. Designing a system that merges rocketry and radio communications challenges hobbyists to think critically about engineering, coding, and physics, pushing the boundaries of what model rockets can achieve. In addition, it creates a bridge to the broader amateur radio community, allowing enthusiasts to share their findings, collaborate on projects, and even participate in competitions that emphasize technical ingenuity.

For my first project, I chose to use a 433 MHz digital packet radio module. I chose 433Mhz because it is within the 70cm amateur radio band (making this an Amateur Radio project) and I am less likely to have interference issues from others who may be using commercial rocket telemetry, recovery or tracking systems that operate on 900Mhz or 2.4Ghz.



The module I chose to use for both the transmitter and receiver is an Adafruit Feather M0 RFM69HCW Packet Radio. This module has a maximum transmit power of 100 milliwatts. It has an ATSAMD21G18 ARM Cortex M0 processor which is the same processor used on the Arduino Zero. Being a feather board, it is very small and light, making it small enough to put in a smaller Estes Rocket. These modules are also inexpensive, costing about $25 each.

The sensor I chose to use for this project is an Adafruit BMP390 barometric, altitude and temperature sensor. Both the radio modules and the barometric sensor have ready-to-go Arduino libraries and sample code which can be downloaded and accessed easily in the Arduino IDE.

I began by working with the example transmit and receive code which is accessible under the Examples in the Arduino IDE File Menu. The transmit example sends a "hello world" message and displays through the serial console any messages received back from a listening receiver. The receiver example displays through the serial console any received messages from the transmitter and then sends a message back to the sending module “hello back to you.”

The acknowledgment feature was unnecessary, so I removed that code since transmitting back to the rocket isn't needed for this project. Additionally, I removed the code responsible for encrypting messages since message encryption is not legal for amateur radio transmissions in the United States.

After successfully testing the basic functionality of the radio module, I tested the BMP390 example code. The example code detects and sets up the sensor and displays in the serial console the current temperature, barometric pressure and altitude from sea level. The documentation for the BMP390 had a helpful wiring guide showing how to wire the sensor to an Arduino or Pi, so I had the example code up and running in no time.

Once I got the BMP390 code working, I copied it directly into the transmitter code and modified the code to

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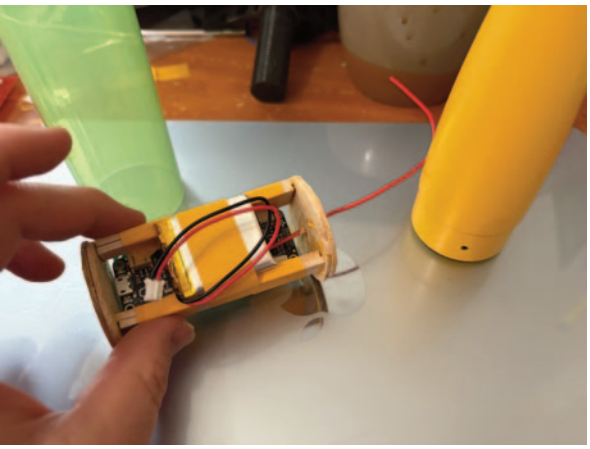
transmit the data through the packet radio. I then modified my code to calculate the rocket's altitude relative to the ground, rather than sea level. I attempted to do this calculation by setting the first altitude reading as the "ground" altitude and then subtracting that from all subsequent altitude readings. And all I got was gibberish.

After a bunch of frustrating troubleshooting, I concluded that when the BMP390 first starts up, it isn't in a stable state. To solve this, I added a one-second startup delay and discarded the first five readings, as the initial reading was always inaccurate. I then took ten additional readings and averaged them to determine an accurate ground altitude.

Another change I made was to make the telemetry data more useful for post-flight analysis. Initially the code would send the information sequentially as separate messages. I modified my code to format the data in CSV (Comma-Separated Values) format. This format simplifies the process of exporting the data from the receiver to Excel or other analysis tools, allowing for quick visualization and interpretation of the rocket's flight profile.

Another important modification was eliminating the use of the "blink" function within the code. The "blink" function turned the on-board LED on or off giving a visual representation that the radio module was transmitting or receiving messages. The implementation of the "blink" function introduced delays of at least 150ms in the loop, time in which telemetry wasn't being transmitted. I replaced the "blink" function with a flag to set the LED on or off every 25th loop. This modification allows the module to continue transmitting in-between changing the LED state.

The radio modules do not have a pre-installed antenna. It is necessary to solder a 6.5-inch wire antenna to the antenna pad. Alternatively, a surface mount uFL connector can be soldered on. This method was used on the receiver module so that I can attach a handheld Yagi antenna using a uFL to SMA adapter.



I have two rockets with a large enough payload section to put the radio module and battery in. The Estes Olympus or the Estes Green Eggs. Since I haven't flown the Green Eggs yet, I chose this rocket. I built a mounting frame out of scrap balsa wood to secure the radio module and the battery, so they don't move around and possibly get damaged. I designed the mounting frame so that the module is visible in the clear portion of the payload bay and the antenna is allowed to stick up into the nose cone.

I made two modifications to the Green Eggs rocket itself for the flight. I drilled a small hole into the top of the payload section to equalize the pressure between the outside and inside of the payload bay which is necessary for the barometric sensor to make an accurate reading. I also added a sticker that says "and Ham" to the side of the rocket, effectively renaming it "Green Eggs and Ham" in reference to the Dr. Seuss book and the ham radio payload on the rocket.

In conclusion, the preparation and modifications made to the Green Eggs rocket, radio module, and telemetry code have been an exciting and educational process, laying a foundation for the next phase of this project. In part two, I will delve into the rocket launch itself, presenting the collected data and sharing the insights and lessons learned from this endeavor. Stay tuned as theory turns into practice, and the skies become the stage for exploration and discovery!

All photos by George Gardei N3VQW

The Reading & Radio Ranch: Notes from the Library

by Justin Patrick Moore, KE8COY

A generous club member donated a lot of gear, books and other material to Oh-Ky-In and its members last month. For those who attended the meeting it was almost like being at a mini-hamfest, though most of the gear was in the test equipment category. A lot of the books were highly technical and aimed at training the next generation of electrical wizards. I don't have the space to store that many books for the club library. Our club library does not get used that deeply anyway, and at some point I may have to weed what we have in storage along the lines of the older and more arcane tomes aimed at the engineering set. This is something necessary to do in any library with finite space as if you want to keep adding new titles. Speaking of new titles, the library fund has some money to spend. Are there books you'd like to see the club library own? Let me know. There are a few I have in mind, but this resource is for the benefit of the membership, so don't hesitate to share what you'd like to read. Thanks to everyone who plays split the pot for picking up the book tab. Drop me an email at KE8COY@arrl.net.

What follows are nine titles I did grab for the club library from the massive pile of books (a sight I always enjoy) at the last meeting. Keep in mind these books are anything but basic!

ARRL's Hands-On Radio Experiments Volume 1 & 2 by H. Ward Silver, N0AX: "These experiments, devised by Ward Silver, N0AX, first appeared in QST's magazine's "Hands-On Radio" column from 2003-2012. This book combines the original Volumes 1 and 2 – covering a wealth of topics designed to educate today's radio experimenters. Step-by-step, Silver expertly leads you through over 120 short electronics experiments, designed to increase your understanding of basic radio fundamentals, components, circuits and design."

Basic Antennas by Joel R. Hallas, W1ZR: "For something that can be so simple to make, an antenna is remarkably difficult for many people to understand. It's one of the most important elements of many radio systems, and can make the difference between a successful and unsuccessful system. Basic Antennas is a comprehensive introduction to antennas — basic concepts, practical designs, and details of easy-to-build projects. You'll learn how to make antennas that really work!"

Basic Communications Electronics by Jack Hudson W9MU & Jerry Luecke: A tasty tome published by RadioShack. Vintage! "Basic Communications Electronics explains analog electronic devices and circuits — how they work and how they are used to build communications systems. Emphasis on semiconductor devices and integrated circuits (ICs). For anyone who wants to understand analog electronics and wireless communications. End-of-chapter quizzes and problem sets reinforce learning. Includes many worked-out examples and detailed illustrations within the text."

Basic Radio by Joel R. Hallas, W1ZR: "Basic Radio reveals the key building blocks of radio: receivers; transmitters; antennas; propagation and their applications to telecommunications; radionavigation; and radiolocation. This book includes simple, build-it-yourself projects to turn theory into practice—helping reinforce key subject matter."

The Essential Guide to RF and Wireless by Carl J. Weisman: "There's a wireless revolution underway! With The Essential Guide to RF and Wireless, Second Edition, you can understand it, join it, and help drive it even if you don't have a technical background.

Leading consultant Carl J. Weisman has thoroughly updated this bestseller to reflect new market realities and breakthrough technologies from wireless 802.11 LANs to broadband fixed wireless, and beyond. Mr. Weisman covers wireless at every level you need to understand: concepts, terminology, building blocks, and above all, how

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complete wireless systems actually work. Drawing on his extensive experience training sales professionals, he explains the essence of every key wireless/RF technology clearly, comprehensibly, and with just the right touch of humor."

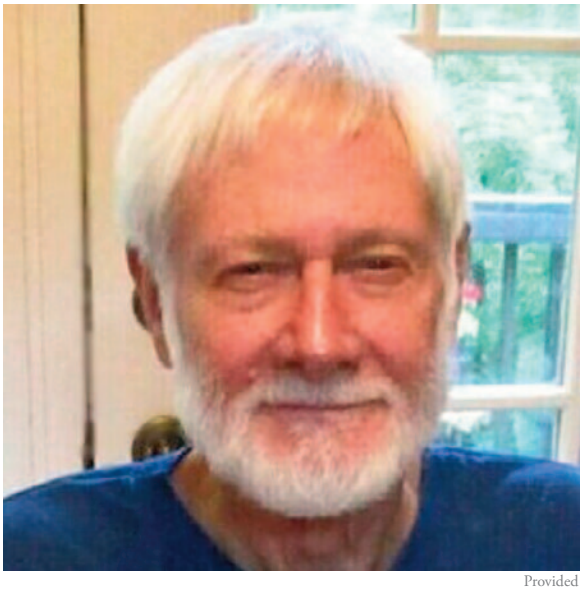
Make: Electronics: Learning Through Discovery by Charles Platt: From Make Magazine. "Want to learn the fundamentals of electronics in a fun, hands-on way? With Make: Electronics, you'll start working on real projects as soon as you crack open the book. Explore all of the key components and essential principles through a series of fascinating experiments. You'll build the circuits first, then learn the theory behind them! You'll start with the basics and then move on to more complicated projects. Go from switching circuits to integrated circuits, and from simple alarms to programmable microcontrollers. Step-by-step instructions and more than 500 full-color photographs and illustrations will help you use — and understand — electronics concepts and techniques."

Practical Test Instruments You Can Build, edited by Wayne Green: This publication from Tab Books is vintage seventies! "PARTIAL list of keywords: VOM Transistor Diode tester; low PIV diode tester; Go No-Go transistor tester; transi-tester; IC tester; transistor gain bandwidth; beta tester; file box transistor tester; transitor parameter tracer; impedance multiplier for VOMs; low-ohm meter; RF voltmeter; relative RF power; milliammeters for RF watts; 100 watt dummy load; RF wattmeter; hot carrier diode wattmeter; wide range VHF-UHF dipper; VHF emitter dipper; dip light; FET gate dipper; VHF UHF wavemeter; regulated power source; 10 minute timer; test probe; crystal tester; unmarked crystal; coil Q tester; universal dual frequency crystal calibrator; meter evaluator; file box resistance FM Am transmitter receiver aligner; electronic counter; etc."

The Radio Amateurs Workshop: Your DIY Guide for Ham Homebrewing by Joel R. Hallas, W1ZR: "Amateur Radio operators have a long tradition of going beyond operating, moving into technology development, home construction, and experimentation. Designing and building one s own station equipment can be rewarding, providing more in-depth knowledge and excitement. There are a number of ways to make good use of a properly equipped workshop for projects. We will explore many of the options radio experimenters choose to pursue. The Radio Amateur s Workshop is your guide to setting up and maintaining an efficient at-home laboratory and work station. It describes the tools you'll need for projects ranging from assembling electronic kits to building and testing antennas. Subsequent chapters look at a wide variety of workshop test equipment, including an explanation of how various instruments can be used to develop, fabricate, and evaluate projects. Become part of the do-it-yourself movement discover fun and creative ways to use radio technology at your workshop today."

Bruce Peirano N8WBP, Silent Key

We are sad to report that our club member Bruce Peirano N8WBP has passed away on May 24th at the age of 73. You may find his obituary at https://amgardens.org/obituary/dr-wm-bruce-peirano/



Provided

May, 2025 Meeting Minutes

OH-KY-IN Amateur Radio Society
Minutes of May 6th, 2025, Member Meeting

The meeting was called to order at 7:30 PM by Ryan AC8UJ with the Pledge of Allegiance. The club meeting was held in person and via Zoom.

Guests: Lonnie KC8DQB and Dave Cook

New Licenses or Upgrades: Lonnie KC8DQB from Tech to General

Attendance: 16 in person; 10 via Zoom

Health and Welfare: KD8OOB will be having shoulder repair surgery.

Awards & Achievements: N/A

Program: Cesi KD8OOB Field Day

Prior Meeting Minutes: Tom W8WTD made the motion, and Drew KE8JTL seconded accepting the meeting minutes for April 2025 as corrected in the Q-Fiver. Motion passed.

Membership: 115 have renewed for the year out of 157 from last year. Please renew at http://renew.ohkyin.org/.

Treasurer: Kevin W8SM, Treasurer's report read and filed for audit.

Silent Key: N/A

Tech Committee: N/A

Classes and Exams: Multiple people earned their license or upgraded. There is continued interest in future classes.

Fox Hunts: Bob WA6EZV. N/A

Library: Contact Justin KE8COY if you would like to check out items from the library.

Nets: SSTV, the net will continue the 1st and 3rd Mondays at 9:00pm on the 146.670 repeater

Website: Rocky would like for someone to take over the website with more experience or find someone that would like to do a new one with a different software.

Cards for SK families: Lloyd W8OPP suggested that we send out cards and such to families on the death of a member. The board will discuss. Anyone interested in leading such an effort can reach out to Ryan AC8UJ.

QCEN: Meetings are held the 2nd Thursday of the month at 7:30PM. QCEN will again have a Hamvention flea market booth. If you wish to have something sold, contact Bob Bross W8NFM.

ARES: Meetings are held the 3rd Tuesday of the month at the ROC at 7PM.

Brunch Bunch: On May 10th at 1pm the Brunch Bunch heads to Santorini's Family Restaurant in Cheviot.

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Events:

- Field Day June 28th & June 29th
- Red, White & Blue Ash July 4th

Old Business:

- Tom W8WTD World Amateur Radio Day Recap.
- Cesi KD8OOB: Satellite station grant update. No updates.
- Ryan AC8UJ: Remote participation in split-the-pot. N/A.

New Business:

- N/A

Announcements: Bruce N8BV & Horatio KA8TVY are looking for someone to help repair antennas.

Split the Pot: $70.00 Split will be $35.00. Mike KD8ZLB

Motion to adjourn made by Justin KE8COY, seconded by Stephen KE8TEY. Meeting adjourned at 9:00PM

Respectfully submitted, Steve Crase N8PUP, Secretary

OH-KY-IN SSTV Net Samples

Here's a sample of the images you could be receiving if you tuned into the SSTV net on the 146.670 repeater. The net meets every month's **first and third Monday** night at 9:00 PM Eastern time. No special equipment is required. If you have a 2 meter receiver and a computer or smart phone, you can receive images. If you don't know how, check in to the weekly Tech Talk net Wednesdays at 9:00 PM Eastern and ask for help. Hope to hear you all on the nets!

Join the SSTV Net!

The SSTV net has attendance has been declining a bit recently. If you find SSTV interesting, we would love to have you join us. Don't know how to do SSTV? We can coach you on that!

Please check us out, the first and third Monday of the month at 9:00 PM on the 146.67 repeater.

DX Spots - June 2025
DE KA3MTT

Sun	Mon	Tue	Wed	Thu	Fri	Sat
1 OY - Faroe Is Thru 6-10 	2	3	4 5R8RD - Madagascar thru 6-11 --- FS - St Martin thru 6-18	5	6 MJ - Jersey thru 6-13 	7 EA5 - Spain thru 6-9 
8	9	10 VP9 - Bermuda Thru 6-17 --- FO - French Polynesia thru 6-27	11 YJ0RS - Vanuatu Thru 6-28 	12	13	14 JD1BQP - Ogasawara thru 6-16 --- ZC4TH - Cyprus SBA thru 6-20
15	16	17	18 TG - Guatemala Thru 7-9 	19 T88PB - Palau Thru 6-23 	20	21
22	23	24	25 CN2DX - Morocco Thru 7-31 	26	27	28 FP - St Pierre & Miquelon thru 7-14 
29	30 SV5 - Dodecanese thru 7-5 					

Prepared by Nathan Ciufo, KA3MTT

Calendar of Upcoming Events

Monday	June 2 @ 9:00 PM	SSTV Net (146.670 Repeater)
Tuesday	June 3 @ 7:30 PM	Club Meeting (Zoom & Arlington Heights Town Hall)
Wednesday	June 4 @ 9:00 PM	Tech Talk Net (146.670 Repeater)
Tuesday	June 10 @ 7:30 PM	Board of Directors Meeting (same Zoom info as club meeting)
Wednesday	June 11 @ 9:00 PM	Tech Talk Net (146.670 Repeater)
Monday	June 16 @ 9:00 PM	SSTV Net (146.670 Repeater)
Wednesday	June 18 @ 9:00 PM	Tech Talk Net (146.670 Repeater)
Wednesday	June 25 @ 9:00 PM	Tech Talk Net (146.670 Repeater)
Sat & Sun	June 28 & 29	ARRL Field Day @ Mitchell Memorial Forest
Tuesday	July 1 @ 7:30 PM	Club Meeting (Zoom & Arlington Heights Town Hall)
Wednesday	July 2 @ 9:00 PM	Tech Talk Net (146.670 Repeater)
Monday	July 7 @ 9:00 PM	SSTV Net (146.670 Repeater)
Tuesday	July 8 @ 7:30 PM	Board of Directors Meeting (same Zoom info as club meeting)
Wednesday	July 9 @ 9:00 PM	Tech Talk Net (146.670 Repeater)

Meeting Information

Our monthly club meetings are typically held at the Village of Arlington Heights Town Hall (601 Elliott Avenue, Cincinnati, Ohio 45215). Enter using the exterior elevator to the second floor at the rear of the building. We also offer Zoom video conferencing as an option. Please join us at 7:30 PM Eastern time each first Tuesday of the month. The Zoom call will open at about 7:20 PM for you to join. The passcode is 146670

https://zoom.us/j/996062859

If you are unable to join online, you may join by telephone at (301) 715-8592 with a meeting code of 996 062 859 and passcode of 146670. Long distance rates will apply.

OH-KY-IN Repeaters

146.670 (-) Clifton

146.625 (-) Edgewood (Fusion & analog WIRES-X)

146.925 (-) Delhi (Fusion & digital WIRES-X)

All repeaters require a 123.0 Hz CTCSS (PL) tone.

Life Members

John Phelps	N8JTP
Kenneth E Wolf	N8WYC
John W Hughes	AI4DA
Karl R Kaucher	KK4KRK
Fred Schneider	K9OHE
Dan Curtin	KF4AV
Steve Weeks	AA8SW
Kelly Hoffman	K8KAH
Mick Cook	KD8IOQ
Steve Crase	N8PUP
Joe Felix	K8NW

Support OH-KY-IN by Shopping

Of course we appreciate your membership dues and all of the ways you give time and energy to the club, but did you know you can also support OH-KY-IN just by doing things you already do?

Kroger Community Rewards is a great source of income for the club and requires no effort! Visit http://www.krogercommunityrewards.com/ and set us as your charity. We are organization **QY352**.

Contact Bruce N8BV for details about the program.

PANDA/stock.adobe.com

Newsletter Submissions

Please send any submissions you would like included in upcoming newsletters to Ryan, AC8UJ. All content is welcome! You can e-mail content to him at his callsign at arrl.net. Please send all content either as plain e-mail text (attach any photos or graphics) or as a PDF file. Depending on the spacing needs of the particular issue, Ryan may reformat your content and adjust the layout. Because of this, if you send a PDF, please also include any graphics used as attachments.

Please renew your membership, if you haven't already

Committee Chairs & Appointments

Technical Operations . . . . . .Gary Coffey KB8MYC

ARPSC Representative . . . . . .(open)

Volunteer Examiners . . . . . .Gary Coffey KB8MYC

QCEN Representative . . . . .Tom Delaney W8WTD

Membership . . . . . .Nathan Ciufo KA3MTT

Fundraising . . . . . .Bruce Vanselow N8BV

Education . . . . . .Tom Delaney W8WTD

Repeater Control Ops Mgr. . .Bruce Vanselow N8BV

PIO . . . . . .Steve Crase N8PUP

SSTV Net Mgr . . . . . .Steve Crase N8PUP

Librarian . . . . . .Justin Moore KE8COY

Q-Fiver Editor . . . . . .Ryan Owens AC8UJ (interim)

ARRL Field Day . . . . . .Eric Neiheisel N8YC

Historian . . . . . .Dale Vanselow KC8HQS

Fox Hunters . . . . . .Dick Arnett WB4SUV

Equipment Manager . . . . . .(open)

Webmaster . . . . . .Rocky McGrath KE8DZS

Silent Key . . . . . .Bryan Hoffman KC8EGV

Tech Talk Net Manager . . . . .Bruce Vanselow N8BV

K8SCH Paper QSL Mgr . . . . . .Bob Frey WA6EZV

K8SCH Elec. QSL Mgr . .Rick Haltermon KD4PYR

TV/RFI . . . . . .Dick Arnett WB8SUV

OH-KY-IN Officers

President . . . . . .Ryan Owens AC8UJ

Vice President . . . . . .Cesi DiBenedetto KD8OOB

Secretary . . . . . .Steve Crase N8PUP

Treasurer . . . . . .Kevin Tribbe W8SM

Director . . . . . .Drew MacDonald KE8JTL

Director . . . . . .Bruce Vanselow N8BV

Director . . . . . .Mike Niehaus KD8ZLB

Trustee . . . . . .Bruce Vanselow N8BV

Consider a Donation to OH-KY-IN

Did you know that OH-KY-IN ARS has been recognized by the Internal Revenue Service as a 501(c)(3) charitable organization? That means anyone who itemizes on their Federal return can take a charitable deduction for a contribution to OH-KY-IN, as long as it qualifies under the general rules applicable to all other charitable contributions (for example, the contribution must be in cash, or other property which the organization has agreed to accept; the value of volunteered services is not deductible). Membership dues, such as the cost of a life membership, may even be deductible; consult your own tax advisor for details if considering that. Posthumous donations by Will or by naming the organization as beneficiary of a financial account are also welcome.



Please remember to renew your membership!

We need all of you to keep OH-KY-IN going strong!

OH-KY-IN Amateur Radio Society has been a leading amateur radio organization in the Cincinnati, Ohio area for more than 60 years. We are a 501(c)(3) nonprofit organization dedicated to the advancement of all things radio. No matter the amateur radio interest, OH-KY-IN members are involved.