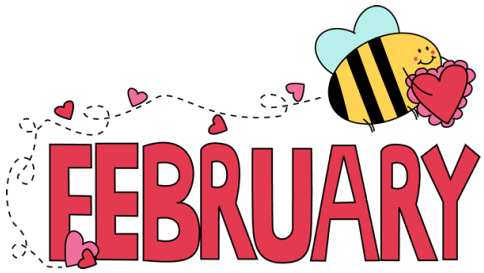
Full Quieting

The Official Journal of The Bellbrook Amateur Radio Club

February 2026 — Issue 54

In This Issue



https://www.clipartbest.com/clipart-acq6rMkzi

From the Editor

Anyone up for taking a POTA activation trip to Florida?

After a month of cold, descending into super cold, that thought has crossed my mind. I'm half afraid I might bring this weather down south and make some enemies down there!

We do cover a lot of POTA topics in this issue. We started out the New Year with a POTA activation that went well and was a lot of fun. We're talking about having regular monthly POTA activations, take a look inside for the details. Also, I describe my experiences in getting ready (or so I thought) for the New Year's POTA activation and what I learned from it.

We have some other items going on besides POTA. With our radio room up for business, Tech Night is starting back up and we have a couple of projects to kick the New Year off. John will guide us through assembling an ADSB decoder to track nearby aircraft; and I show three different ways you can get HamClock up and running on your Raspberry Pi. Once you start using HamClock, you'll see what a valuable tool it is in your ham radio toolbox. And it's quite pleasing to the eye in my humble opinion.

There are some other very interesting articles for you to read, I won't spoil the surprise here, but I wanted to thank Tom KE8FWZ and Marv K8MDS for their articles. That's exactly the sort of thing I appreciate most about BARC, I asked BARC for some input and I got some! So, let's keep it up. I know all of you have something you find interesting that the club would just love to hear about. It doesn't even strictly have to be about ham radio. I was this close to adding a great recipe this month, but this issue is already packed and I ran out of time. Good news is I found another good recipe to go with the other one. Maybe this is the start of a new column? Hams do like to eat...almost as much as churchgoers do, at least in my experience!

And, pray for warmer weather, or else a Florida road trip is in our future!

73, Ray Hitt, N8VMX
Full Quieting Editor

2026 BARC Officers and Directors

President: Geoff Kline, KI5VNB
Vice President: Eric Bramini, KC8OPY
Secretary: Jim Gifford, N8KET
Treasurer: Thomas McClory KE8FWZ
Senior Director: Don Macon, KE8WVJ
Junior Director: Glenn Rodgers, W8IO

2026 Coordinators

Antennas: Ray Hitt, N8VMX
Clubhouse: Jim Lusk, KC8EFD
Comm Center: John Westerkamp, W8LRJ
Contesting: Ken Gunton, W8ASA
Education: Paul Sharp, WS8R
Emergency Preparedness: Jim Lusk, KC8EFD
Field Day: Eric Bramini, KC8OPY
Full Quieting Editor: Ray Hitt, N8VMX
Hospitality & Librarian: Natinka Siwecki, KD8NUA
IT: John Westerkamp, W8LRJ
Lunch Bunch: Jim Totten, WA8HUB
Net: Paul Sharp, WS8R
Public Service: Don Parker, KB8PSL
QSLs: vacant
Repeater: Russ Roysden, N8NPT
Tech Night: Bob French, AC8ZU
Webmaster: Doug Hayward, K8DRH

BARC Net: Every Sunday, 8 PM Local

147.045 (+) (118.8 PL enc and dec) [Alt = 443.675]

Directions to BARC Clubhouse and Radio Room

St. Pierre Education Center
3757 Upper Bellbrook Rd
Bellbrook, OH 45305 Map Link

Park in front of building, enter in front-right door. **Conference room**: Take first hallway to the left, conference room is on the right. **Radio Room**: Straight down hallway, left turn into gym. Door on left.

Member Interviews

BARC wants to hear from you!

Whether you're a long-time BARC member or a brand new one, young or old, please tell us about yourself. Here are some simple guidelines, although you're free to use whatever format you're comfortable with.

This page is all about you. It's your chance to let BARC members to get to know you better.

Here's are a few sample questions to help get you started, but you can write whatever you want.

Please send us some pictures of anything you want BARC to see (you, station, antennas, pets, family, anything)

- When you were first licensed?
- How did you learn about Ham Radio (HR)?
- Why did you become a Ham?
- What are your current HR interests?
- What are you most passionate about regarding HR?
- Tell us about your stations (past, present, and future)
- What was the most exciting thing that happened to you in HR?
- What do you do for a living?
- Would you like to say something about your family?
- Do you have other hobbies or interests?
- Any other comments for BARC?

President's Corner

What a way to end January. I hope everyone weathered the storm safely and that your family and friends came through it unscathed.

I want to thank the Officers and Coordinators who helped make the difficult decision to cancel our Winter Field Day activity. This was not a decision made lightly. Many of us were looking forward to getting on the air and enjoying the unique challenges that winter operating brings. However, with a major winter storm bearing down and dangerously low temperatures forecast, we ultimately concluded that the risks outweighed the benefits.

Our club is built on camaraderie, experimentation, and public service, but none of those are worth compromising the health and safety of our members. Safety must always come first, even when it means postponing something we enjoy. There will be plenty of other opportunities for us to operate together, preferably with all of our fingers and toes intact.

I'd also like to offer a quick reminder about our weather-related closure policy. When Bellbrook schools are closed due to inclement weather, the radio room and all scheduled on-site club activities are also considered closed. This helps ensure everyone's safety and keeps our arrangements with the school clear and predictable. The only exception is when the radio room is being used in direct support of an emergency or a formally requested public-service operation. In those cases, coordination will be clearly communicated.

Looking ahead, 2026 marks the 250th anniversary of the signing of the Declaration of Independence, and there are some great amateur radio activities tied to the celebration. There is still time to begin the America250 Worked All States award, and QRZ.com is also running the USA250 award, which requires 250 confirmed QSOs with U.S.-based amateur radio stations. And of course, the always-popular 13 Colonies Special Event returns in July. It's shaping up to be a fun and historically themed year on the air.

Finally, I want to highlight something that has always been one of BARC's greatest strengths: our willingness to teach, share, and learn from one another. Whether it's antenna experiments, operating tricks, digital modes, or those classic "how did you fix that?" moments, this club thrives on curiosity.

With that in mind, the club is looking for an **Education Coordinator**. This role is not about standing at a podium and lecturing for hours or grading homework. It's about sparking ideas and helping organize talks, hands-on sessions, and workshops by working with our other coordinators to keep learning fun and accessible. Sometimes it's as simple as giving a curious member a gentle nudge in the right direction.

If you enjoy learning, asking questions, or helping others explore new corners of amateur radio, you're already overqualified, but we'll gladly accept you anyway. If this sounds like something you'd like to help shape in your own way, please let me know. The best ideas in this club have always come from members who simply said, "Hey, what if we tried this?"

73,

Geoff Kline, KI5VNB
President, Bellbrook Amateur Radio Club

What's Up BARC?

Ray Hitt, N8VMX

Announcements regarding any member news including: new equipment, antennas, grandchildren, children, pets, operating news, etc.

Welcome New Members!

Evan Rolek, K9SQG, Extra

John Limbach, K8NN, Extra

New Year's Day BARC POTA Activation

Early January 1st, several of us set out to John Bryan State Park (US-1964) to operate in support of the New Years Activator challenge. If you were to activate a park during the first week of 2026 you would be granted a certificate. Here's a copy of mine.

The weather was around 18°F, which seemed very cold at the time, but strangely balmy considering I am writing this as the temperature without wind chill is –7°F!

We all congregated at the mountain bike trail parking lot, chatted awhile, then set up our stations. Eric KC8OPY and Ray N8VMX deployed to two different sites to keep the interference down. The folks remaining at the parking lot did have a little jamming but a lot of fun. We are going to be doing more of this in 2026 (going to POTA activations, not jamming each other, to be clear!). I hope you can join us when the weather is a bit more hospitable.

(Continued on next page)

What's Up BARC? (continued)

New Year's Day BARC POTA Activation (continued)

Here are some more pictures from John Bryan State Park. Most of us operated out of our vehicles. This is a good way to test out your car's ability to support HF operation in the wild. See N8VMX's article in this issue about operating FT-8 out of your car at a POTA event. It's doable, but takes some planning for your POTA activation to be the fun part and not just chasing gremlins!

POTA Special Interest Group

As you can read in Ray N8VMX's article on our January 1, 2026 outing, we had a great time. As a result of that fun time we decided to try something new. The POTA special interest group is going to schedule a POTA adventure the first Saturday of every month.

After several of us talked at the last POTA meeting, we thought it would be a fun time to perhaps meet someplace and eat breakfast and then divide up into more than one park with pairs of POTA operators going to different parks and the activating and even calling each other.

By the time you read this you should have received an e-mail from the POTA coordinator (if you are signed up to receive POTA emails) describing our very first Saturday adventure. If you're reading this and didn't receive the e-mail, contact Jim Gifford and make sure that your name is on the special interest group e-mail list.

We plan to meet at Slim's Grill in Spring Valley at 7:30am on February 7. After a hearty breakfast, we will divide up into groups and head to Caesar Creek State Park (state park – US-1940; wildlife area US-7850), the Spring Valley Wildlife Area (US-7849), Caesar Creek State Nature Preserve (US-7847) or the Little Miami River Scenic Trail (US-1972) where we will activate. These parks are all in the same general area.

So that we know how to plan, please email Jim Gifford N8KET at james.gifford55@gmail.com and Glenn Rodgers WI8O at ghrodgers@icloud.com.

(Continued on next page)

What's Up BARC? (continued)

BARC Swag from Emerio KE8JNQ

In the April 2025 planning meeting, the club officers approved Emerio KE8JNQ to offer a variety of items for sale all in Blue BARC Color. These items complement the other items being offered for sale from other vendors. Notice that the logo is a larger size so other Amateur Radio Operators can see it better. All BARC members get this discount price. If you need more information or would like to order, contact Emerio KE8JNQ. His telephone number is 937-546-9477.

BARC Swag from Parrot Promo Essentials

We have polo shirts, sweat shirts, hoodies, t-shirts, ball caps, and softshell jackets from Parrot Promo Essentials. You can order them directly from our website, at https://bellbrookarc.org/wp/order-barc-gear/ These shirts are a little more expensive than those offered by Emerio, but they match the ones you've seen many of us wearing already.

BARC Mugs from Chris Hanselman, AD8OM

For those of you wanting 20 oz insulated BARC mugs, please contact Chris Hanselman, AD8OM, at deeremt@gmail.com. They are offered in Blue with silver print and Black with copper print. Look for some new designs to be unveiled soon to add to your collection!

Officer, Director, and Coordinator Inputs

Treasurer: Tom McClory, KE8FWZ : The club enters 2026 with a strong balance sheet. January saw a significant contribution of $500 from several anonymous donors organized by Geoff Kline, with a corresponding 2 for 1 match from JP Morgan Chase for a total donation of $1500. Many thanks to our club president for leading this welcomed outcome.

January is also the middle of the annual membership renewal window. We're currently at 132 paid members, representing about 75% of our membership. Those of you who may have overlooked renewing, it's not too late. Dues are $15 per person or $18 per family. You can use PayPal by sending your payment to treasurer@bellbrookarc.org using Friends and Family. You can also send a check made out to BARC to P.O. Box 73, Bellbrook, OH 45305. Or you can bring a check or cash to any BARC Membership meeting. Don't overlook this little detail as it keeps that award-winning Full Quieting newsletter coming to your inbox each month.

Repeater: John Westerkamp, W8LRJ: Several systems at the repeater site have been updated to reboot automatically once per week. Hopefully, this change will make the services they support more reliable. Note that the PC's all run Windows 10 and cannot be upgraded so they no longer need Windows Updates every month.

Website: Doug Hayward, K8DRH: Hello, I'm the new BARC website Curator or Admin. I would really like to know what you might like to see on the Bellbrook Amateur Radio Club Website: 1) a current calendar of other club meetings, nets, and events; 2) A place to catch up or share news and announcements between meetings; 3) A handy expanded (other orgs and clubs) member resources page (repeaters, frequencies, net schedules, EMCOMM info); 4) Online licensing and learning resources and links for new hams and those upgrading; 5) Links to useful amateur radio resources; 6) An easy way or Classifieds for members (only) to sell gear, submit ideas, articles, or announcements? Drop me an email with your suggestions.

Communication Center: John Westerkamp, W8LRJ: We continue to work on the PCs to make sure they are all running the same software and are up-to-date on all Windows Updates. We are still connecting devices such as the SignaLinks for the mobile radios. We hope to have all services available again before this summer. The server Workstation #1 needs a new disk drive as the current drive is full and is no longer able to support any further N3FJP logging.

BARC Net Manager: Paul Sharp, WS8R: Every Sunday at 8:00 PM you can listen to and participate in the exciting BARC Net, on 147.045. For the 4 weeks in January 2026 there were approximately 64 check-ins lasting 165 exciting and informative minutes. Topics ranges from Open Mike, Parks on the Air, your most memorable contact or Special Event Station, lots of discussion about the new club house, and how are you coping with this massive snow storm.

Our faithful Net Controllers are, Larry Darner KD8RER, Connie Gifford W8CSG, Jim Gifford N8KET, Tink Siewicki KD8NUA, Eric Bramini, KC8OPY, and Paul Sharp WS8R. Joe Menchaca, KE8UUA as a trusty alternate.

Officer, Director, and Coordinator Inputs (cont.)

Secretary's Report

First, I am not a big fan of some of the newer artificial intelligence (AI) abilities. Why would I resist this awesome new technological initiative? Because in my humble opinion the more people depend on AI, the dumber our society becomes. That's my opinion.

I worked for 20+ years as a technical writer/editor, and I hate to see us depending on some database system to write reports, draw or paint our art, or compose music and write the lyrics.

So, just for fun, and as an experiment, I used the AI function in Gmail to write my secretary's report this month for Full Quieting. When the AI function popped up, I typed in a few key words in the prompt. No full sentence, no details -- just some words. The following was mostly written by AI. I added just a couple details.

Dear BARC members,

Please find the newsletter report regarding secretarial responsibilities for January 2026 in BARC.

This report outlines the key tasks, administrative updates, and core responsibilities managed throughout the month. I have included details on Minutes 1), Planning Notes 2), and the progress made on other tasks heretofore not specified .

Please let me know if you have any questions or require further information regarding these updates.

Best regards,

James Gifford

Secretary

[Editor: Jim, your job is secure, for as long as you so desire! This AI has a lot of room for improvement.]

BARC January 2026 Event Calendar

Sun February 1, 2026

8pm Weekly Net ..... Where: 147.045+ (118.8 Hz tone)

Thu February 5, 2026

7pm Planning Meeting..... Where: BARC Clubhouse

Sat February 6, 2026

7:30am BARC POTA Activation ..... Where: Slim's Neighborhood Bar & Grill

Sun February 8, 2026

8pm Weekly Net ..... Where: 147.045+ (118.8 Hz tone)

Tue February 10, 2026

11:15am Lunch Bunch.....Where: City Barbecue

Sun February 15, 2026

8pm Weekly Net ..... Where: 147.045+ (118.8 Hz tone)

Tue February 17, 2026

7pm Tech Night ..... Where: BARC Clubhouse

Thu February 19, 2026

7pm Membership Meeting ..... Where: BARC Clubhouse

Sun February 22, 2026

8pm Weekly Net ..... Where: 147.045+ (118.8 Hz tone)

Tue February 24, 2026

11:15am Lunch Bunch.....Where: Marion's Piazza

Thu February 26, 2026

7pm Dessert & Movie Night..... Where: BARC Clubhouse

BARC Movie and Dessert Night

February 26, 2026!

With the lights off to view the movie we didn't see our shadows, is that a good thing? The first movie night of 2026, Ground Hog Day, thanks to Ray N8VMX, was very much enjoyed. We had a Hot Chocolate Bar with cookies for dessert. Though the best part of the night was BARC's Famous Popcorn!!! Our February movie will be Aqua Man & the Lost Kingdom. For dessert maybe Swedish Fish and Bubble tea, LOL. Before the movie we could start out with a good game of Go Fish!

	Date	Title	Genre	Actors
√	January 22, 2026	**Groundhog Day**	Comedy	Bill Murray
	February 26, 2026	**Aqua Man & the Lost Kingdom**	Adventure	Jason Momoa
	March 26, 2026			
	April 23, 2026	**Rental Family**	Comedy/Drama	Brendan Fraser
	May 21, 2026			
	June 25, 2026	**Now You See Me/Now You Don't**	Action	Woody Harrelson
	July 23, 2026			
	August 27, 2026			
	September 24, 2026			
	October 22, 2026			

BARC movie nights are held on the **Fourth Thursday** of each month **January** through **October** at **7:00 PM in the BARC Clubhouse.** We take November and December off for the holidays. At each movie night we pop up, *fresh*, BARC's famous popcorn and you never know what we will come up with for dessert! We welcome movie recommendations.

With the new BARC Clubhouse up and running we're hoping 2026 will be a banner year for great movies and even better attendance!

We'll see you in Februrary at the Movies!

Tink
KD8NUA

Lunch Bunch

Jim Totten, WA8HUB

Hello my fellow lunch lovers. January 2026 is just about over. Though we may have had showers in April, May, June and July but the days of January have been cold some rain and snow. The most Treacherous weather has been the super cold. The last half of the month most of the days the highs for the day will be in the teens. As I am writing this I expect the high temperature to 12 degrees Fahrenheit. It is time, time to renew our lunch meetings for this new month, February, 2026. To recap: our club meetings are on Thursdays. The Planning meeting is the first Thursday of the month and the General meeting on the Third Thursday. Our Lunch Schedule is the Second and Fourth Tuesday of each month. If a scheduled Tuesday gets slammed by some unforeseen event the lunch is just cancelled. The invitation messages will go out Wednesday or Thursday of the previous week.

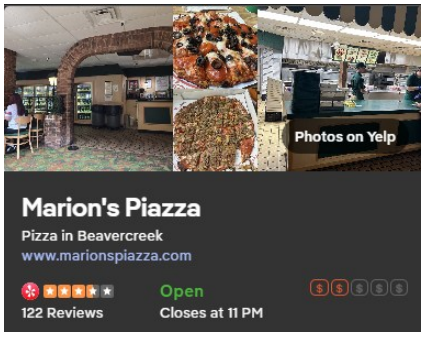
Now, how will the lunches be selected? Accompanying this information page is the same chart in last months FQ listing our current set of restaurants. I updated all of the dates for all of the restaurants on our list. The list is now into 2026. This published list is the order we will select each lunch day. You now know what the whole order is and know what's coming next. The February restaurants are highlighted. Notice that we are back to two lunches per month.

January was a two lunch month. On Tuesday, January 13, 2026 we ate at Culp's Cafeteria at 1000 Carillon Blvd, Dayton,OH 45409, (937) 293-2841. We had 5 stalwart lunchmates. Al's wife was caught up in some redesigning their house lower level. The food was delicious as always. Our second lunch in January was scheduled to be the new City Barbecue at 2001 E. Dorothy Lane. As I am writing this it is snowing. Snow started Saturday afternoon (01/24/26) and it is still snowing today and may continue through Monday (01/26/26). I currently have at least one foot of snow at my home. The lunch for January 27, 2026 has been cancelled.

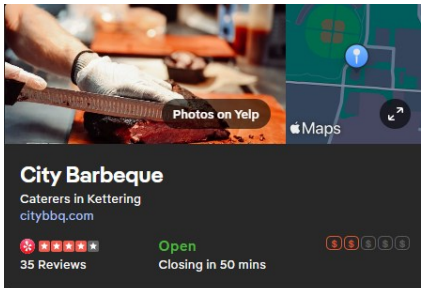
We now have a new lunch list for February. The first February lunch is on Tuesday, Feb. 10, 2026. The venue is now City Barbecue at 2001 E. Dorothy Lane, Kettering, OH 45420. Phone (937)200-1006. Their meats are just great. Lots of room. The menu, besides pizzas, includes some delicious sandwichs. The cloistered ladies playing Mahjong are interesting. On Tuesday, Feb. 24, 2026 we eat at Marion's Piazza at 1320 N. Fairfield Rd., Beavercreek, OH 45432. Phone (937) 429-3393. Remember that Marion's does not open until 11:00 o'clock a.m. That's a wrap for this month. Happy eating.

73, Jim, WA8HUB

Tuesday, Februrary 24th, 11:15am



Tuesday, February 10th, 11:15am



Click picture or hyperlink for more info and maps

(Continued on next page)

Lunch Bunch List

Jim Totten, WA8HUB

Date	Restaurant	Address	City	Phone Number
01/13/26	Culp's Cafeteria	1000 Carillon Blvd	Dayton, OH 45409	(937) 293-2841
02/10/26	**City Barbecue**	**2001 E. Dorothy Lane**	**Kettering, OH 45420**	**(937) 200-1006**
02/24/26	**Marion's Piazza**	**1320 N Fairfield Rd.**	**Beavercreek, OH 45432**	**(937) 429-3393**
03/10/26	Red Robin	2671 Fairfield Commons Blvd.	Beavercreek, OH 45431	(937) 320-9800
03/24/26	Beavercreek Pizza Dive	4021 Dayton-Xenia Rd.	Beavercreek, OH 45432	(937) 431-8669
04/14/26	Cherry House Cafe	1241 Meadow Bridge Dr	Beavercreek, OH 45434	(937) 320-6200
04/26/26	Another Broken Egg Cafe 7:00 am to 2:00 pm	2453 Esquire Dr.	Beavercreek, OH 45431	(937) 912-5074
05/12/26	China Garden Buffet	112 Woodman Dr. Airway Shopping Center	Dayton, OH 45431	(937) 781-9999
05/26/26	First Watch 7:00 am to 2:30 pm	5245 Cornerstone North Blvd	Sugarcreek Twp, OH 45440	(937) 732-9013
06/09/26	Submarine House	3195 Dayton-Xenia Rd.	Beavercreek, OH 45434	(937) 429-8650
06/23/26	Roosters Wings	2430 N. Fairfield *The Shoppes at FC*	Beavercreek, OH 45431	(937) 702-9500
07/14/26	Butterbee's	217 Progress Dr.	Xenia, OH 45385	(937) 352-6504
07/28/26	Shawarma Grill	2844 Colonel Glenn Hwy	Fairborn, OH 45324	(937) 429-4959
08/11/26	Chic-Fil-A	5301 Cornerstone N Blvd	Sugarcreek Township, OH 45440	(937) 439-1700

New Year's POTA Lessons Learned

Ray Hitt, N8VMX

On New Year's Day, several BARC members, me included, went to John Bryan State Park (US-1964) for an early morning POTA activation. Due to the cold, I intended to work FT-8 in my car rather than setting up on a picnic table. FT-8 has been a problem for me in the past when operating POTA due to random problems popping up that would derail my activation. I decided I'd improve my chance of a successful activation by wiring my car up with all the FT-8 accessories and testing everything in my garage the night prior to verify things were working as expected, and correct problems that I discovered. It was my goal to arrive at the POTA site, boot up and go. It didn't exactly happen that way.

Background: My daily in-car amateur radio setup consists of a Yaesu FT-857D transceiver; an SGC antenna coupler; a 9-foot stainless steel whip with a bayonet quick-disconnect for swapping out with other antennas; a 12VDC wiring setup with wireless relays that allows the car battery to supply power directly to the radio or bypassed to allow an independent 13.8V LiFePO4 (lithium) battery to be used instead. This both isolates the car battery from the radio and provides the stable LiFePO4 battery voltage throughout the whole activation. The radio has a remote front panel and microphone near the driver and passenger seats, but the rest of this setup is in the trunk area.

For normal voice mode POTA activations, this setup is complete; all I would need to add is a robust way to log contacts. I've used paper in the past but prefer to use Smart Logger now, either on a computer or Android tablet. I always have paper logs available too, just in case.

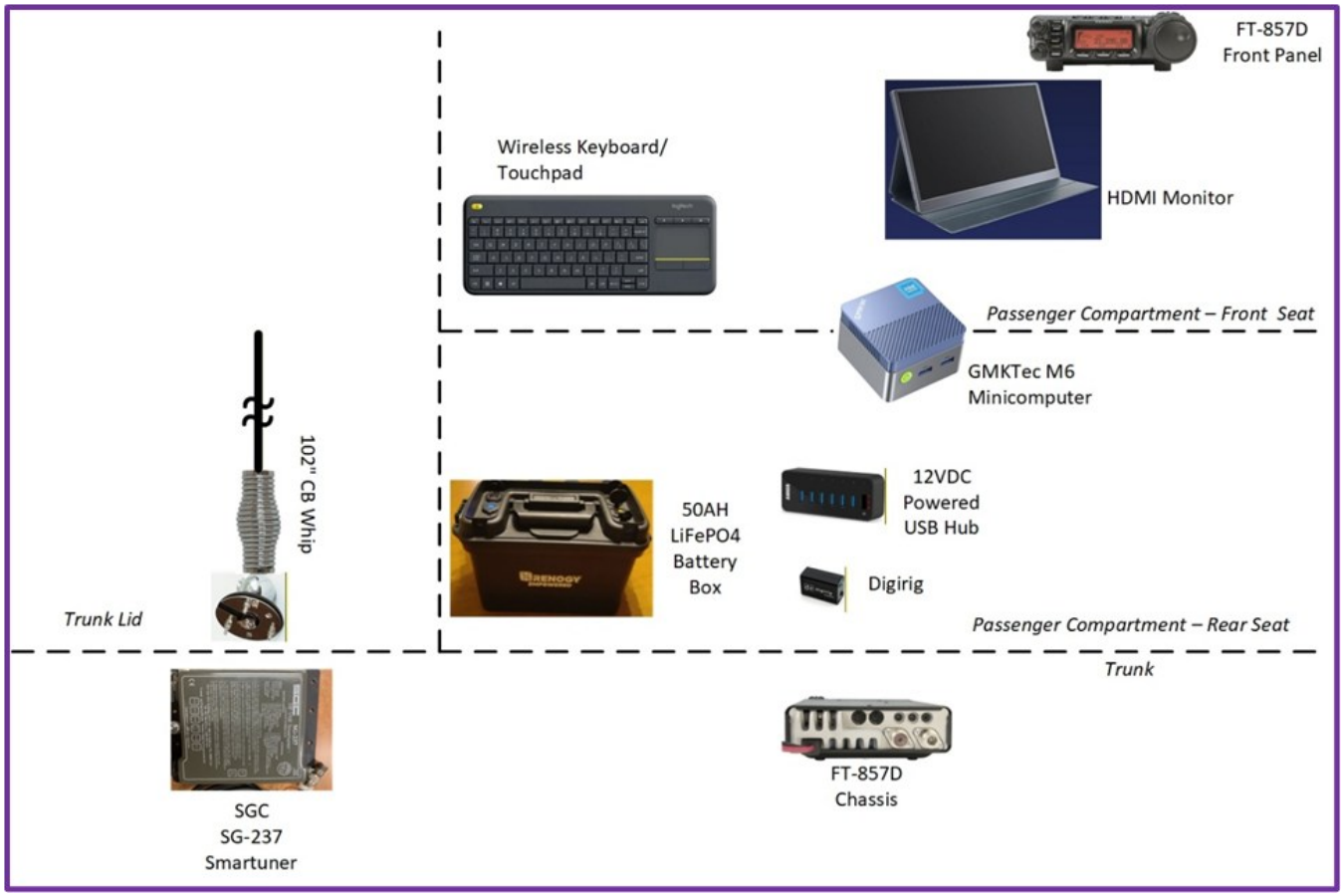
To add FT-8 capability to this setup, I needed to attach two data/CAT cables to the rear panel of the Yaesu FT-857D in the trunk and route them to the rear seats in the passenger compartment, along with a short PowerPole jumper cable to run 12VDC inside the passenger compartment. I opted to locate my 50AH lithium battery box in the rear seat where it's closer to room temperature, and its on/off switch readily available to cut power to everything if I need to. The battery box is connected to the 12V PowerPole jumper cable running into the trunk connected to the FT-857D and SCG coupler with a small PowerPole junction block. When using the 50AH battery I disconnect the radio from the car battery by opening the wireless relay connecting them together. After the POTA event, once the lithium battery box is switched off, I can close the relay to reconnect the Yaesu to the car battery so I can use the radio while I drive.

(Continued on next page)
Back to Table of Contents

New Year's POTA Lessons Learned (continued)

The battery box also provides 13.8VDC to a powered USB hub that is also in the rear seat. The USB hub connects to a Digirig providing data and audio connection to the FT-857D in the trunk. A USB dongle is also attached to the USB hub to connect the wireless keyboard/trackpad and optionally a wireless mouse. I have found the keyboard's trackpad a little easier to use in a cramped automobile environment than a separate mouse, but the same dongle can control both. Another one or two USB ports are used to connect to the USB-C connector(s) on the HDMI monitor. The monitor has more brightness by connecting two USB-C connections, but only one was required in the dreary overcast Ohio morning on New Year's Day, as you can see in the pictures at the beginning of the article.

My battery box has some USB-C PD (power delivery) outlets, which I have found to be compatible with my GMKTec G5 minicomputer. Running a short (3 feet) USB-C to USB-C cable powers the computer just fine. It draws somewhere between 15-30 watts of power, reasonable for as much processing power that this computer has. It's able to run Windows 11, FLRig, WSJT-X, and my logging app at the same time. I'm still deciding if I need to bring a second HDMI monitor (the computer supports dual displays) but there's not much room in the car for that luxury. The graphic below shows roughly where I had everything situated in the front seat, rear seat, and in the trunk. It's worth noting that I have a Raspberry Pi-5 that is also configured to do POTA and I can swap it in the Windows 11 computer's place if I choose. I got a little disillusioned using the Pi at a previous POTA activation but might try again someday. I use a Raspberry Pi5 at home for FT-8 POTA hunting with no issues at all.



(Continued on next page)

Back to Table of Contents

New Year's POTA Lessons Learned (continued)

The Night Prior: Before bringing this gear out to the car, I connected it together in my basement workbench to find the best cables and troubleshoot. I used a Xiegu G-90 on the workbench in place of the Yaesu FT-857D since I wanted to leave the Yaesu in the car, the connections are nearly identical, only the cables running from the Digirig to the radio are customized for the particular radio you're using.

Here's a picture of the setup in the basement. It matches the configuration in the diagram earlier, hopefully you can get a sense of how far apart these items are separated in my car.

Everything seemed to check out on the bench, so I moved everything out to the car in the garage. I fired up a space heater to warm things up a bit! I powered up the battery box, then the radio, then the computer. It booted up into Windows 11 fine. Then I started up FLRig, the CAT software I use with the radio. I noticed right away that it was not detecting the radio. Checking the FLRig settings, I noticed under *Config->Setup->Transceiver* that I the baud rate set wrong; 19,200 instead of 38,400 baud. Once corrected, I was able to go into transmit mode and FLRig was showing all the available transceiver information sent from the Yaesu FT857D.

I then started WSJT-X and it was displaying the frequency information from FLRig, but when attempting to *Tune* (the antenna), WSJT-X gave an audio card error. Checking *File->Settings->Audio* I saw that the Digirig USB ports didn't match what was shown in the Device Manager for the Digirig. So, hitting the *Update* button refreshed the port listing and I was able to map the right ports.

I wrote about this Windows 11 phenomenon in the August 2025 *Full Quieting*, but didn't investigate the effect on WSJT-X. Whenever you plug a Digirig into a USB port in Windows, it is given a unique name. That name must match what's in WSJT-X. Every time you plug in a USB device unless you always plug into the same port, you need to make sure the names match. I was using a 7-port powered USB hub, up to 10 unique UBS ports on this computer setup!

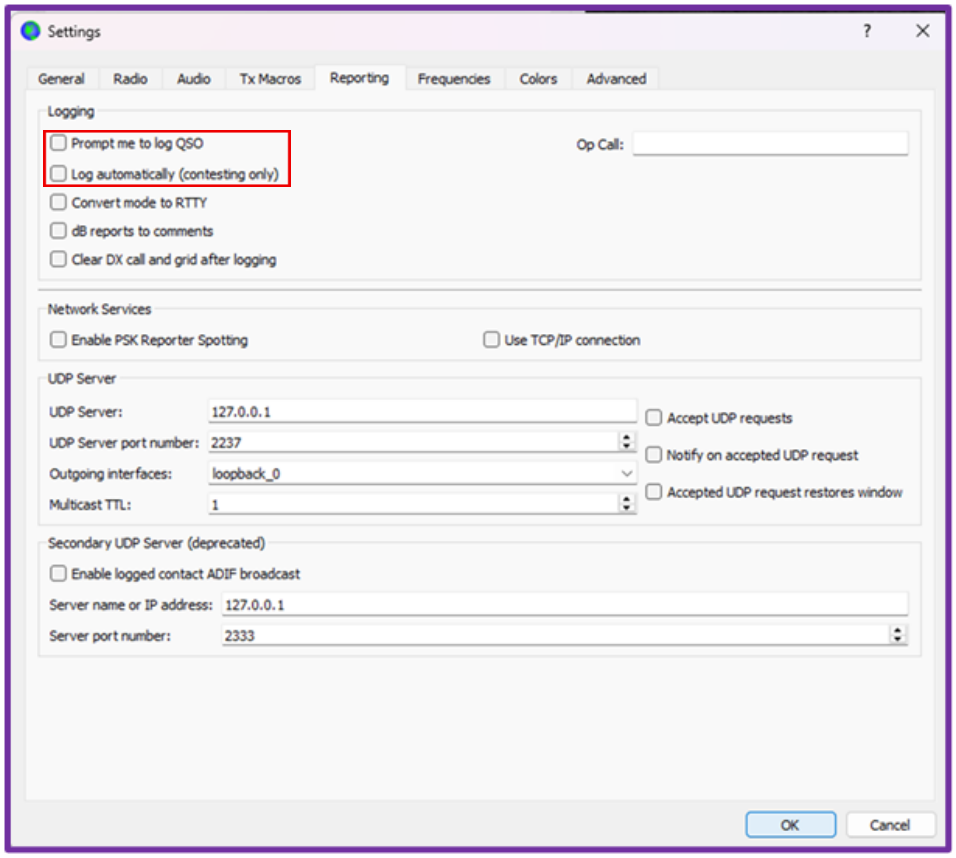
The next thing I noticed was that the audio levels output by the Yaesu into the Digirig were low (the green signal level bar in WSJT-X read 40 instead of 60). So, I had to raise the audio level using the Windows audio control panel. Also, the audio signal put out by the computer and transmitted by the Yaesu FT857D seemed a little hot; triggering the FT-857D's ALC. I had to back the audio level off to avoid having a wide, distorted FT-8 signal that would irritate other FT-8 users if not addressed.

(Continued on next page)

New Year's POTA Lessons Learned (continued)

At that point, I left everything in place, powered everything down but left it all ready to go once I showed up at the POTA location. Taking the time the night prior to check all these things saved me up to two hours at the POTA site.

New Year's Day Activation: We all showed up at an agreed upon parking lot around 9am. We discussed what we were all doing and split into our teams. I went solo and drove off about ½ mile from the others. I started up the setup and started working FT-8 on 40-meters. Right away I noticed something was off about WSJT-X. I made three contacts but never got a prompt from WSJT-X to log them. Being paranoid, I was also logging contacts manually in Smart Logger – mainly to gain practice using it since it's new to me. So, I paused and looked at the WSJT-X settings and noticed that none of the logging options were checked. You know, I probably installed the software on this computer but never ran the setup options. Shame on me!



There are two logging options here, either *"Prompt me to log QSO"* or *"Log automatically (contesting only)"*. I normally use the "Prompt me" choice because I like to know for sure that the contact was logged so that I can keep trying if it did not.

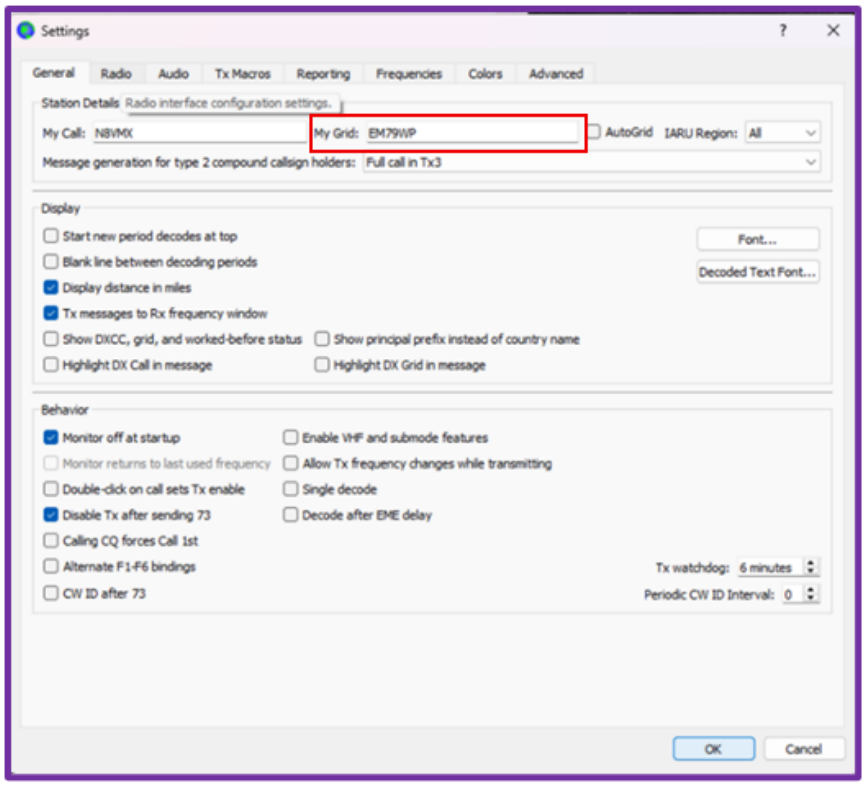
Since I had failed to log three contacts in WSJT-X but had logged them in Smart Logger, after I got home, I manually added the other contacts from the WSJT-X ADI file into Smart Logger and used Smart Logger to upload the complete POTA log into N3FJP and into the POTA app. Smart Logger is really set up to do this easily. That might make a nice topic for an upcoming POTA meeting or Newsletter article.

The other thing I noticed was that my grid square kept changing from EM89 to EM79 on the main WSJT-X page. I changed the *"CQ N8VMX EM79"* option to *"CQ POTA N8VMX EM89"* under the *TX-6 button*, but the change wouldn't stick. I then remembered that I needed to change the grid square under the *General Settings* tab instead of on the main WSJT-X *TX-6 button* on the main screen. It seems WSJT-X refers to your general settings and changes your CQ grid square back to those settings even if you type something else for the *CQ TX-6 button*.

(Continued on next page)
Back to Table of Contents

New Year's POTA Lessons Learned (continued)

Here's the page (right) at *File->Settings->General* where you change your grid square. **Don't forget to check this setting before any POTA activation and at home before you use WSJT-X.**



So, how do you find your POTA grid square? There are a couple of ways, the method you choose depends on if you're setting up your software beforehand at home or on site at your POTA activation.

If you're setting up beforehand, you can log on to the POTA app and look up your park. There will be a grid square associated with that park. In some cases, it may be nonsense— the Lewis and Clark Trail for example, which spans most of the US.

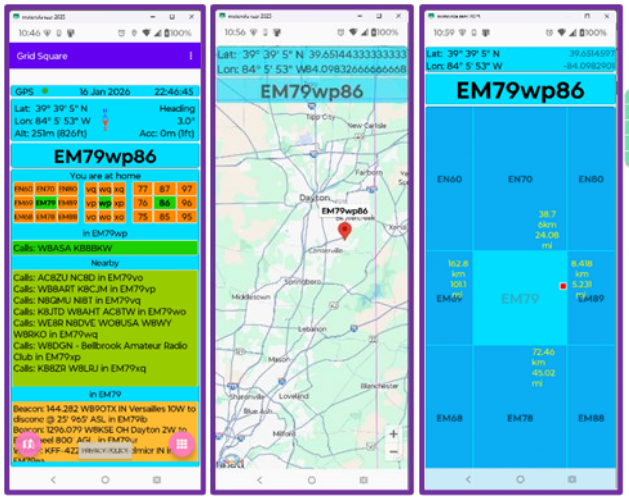
The other option you have is to use your cell phone's GPS and a grid square conversion app to show you the grid square out to 6 or 8 characters at your phone's location. One of these apps lets you manually enter any lat-long which makes this ideal if you want to zoom into a map and pinpoint the lat-long you're going to be at, then use this lat-long to put into the app for conversion to grid squares. This is something you could do the night prior.

Amateur Radio Grid Square Tool **by KG9E**: This tool uses the GPS to grab your lat-long and populate the grid square. It gives you up to 8 digits of precision, but only 4 or 6 are used in WSJT-X. This is a pretty basic app and you'll be up and running in a few seconds. When you first open it, you can do a long press in the latitude or longitude box, and it will blank out and you can use the on-screen keypad to manually enter a lat-long. This is useful if you want to preplan for a POTA location by grabbing a lat-long off Google maps for example. Or you can use the GPS when you arrive at your POTA location.

This example is for the Spring Valley State Wildlife Area Boat Launch (US-7849) which is also touching Little Miami River State Park (US-1972). This makes it a "two-fer", meaning that when someone hunts you, they get credit for two parks when making one contact. If folks know you are at a "two-fer", prepare for a lot of attention!

(Continued on next page)

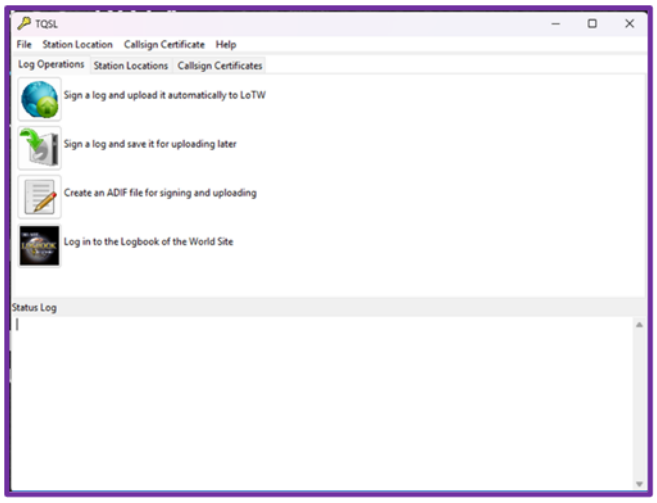
New Year's POTA Lessons Learned (continued)



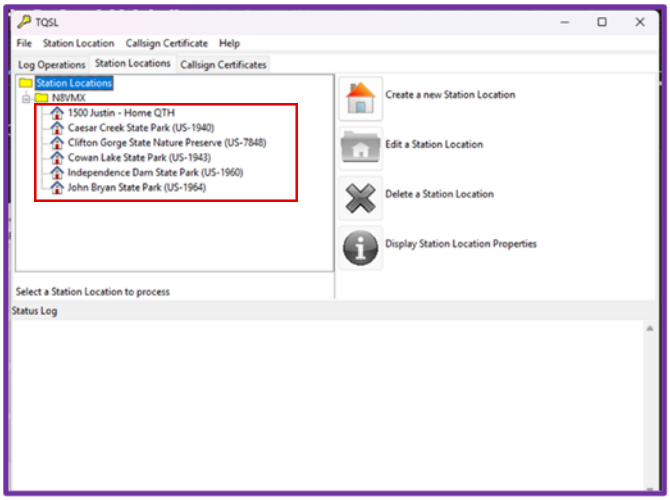
Grid Square by Ham Radio Tools: This app works almost the same way, except that it doesn't allow for manual lat-long entry, you must use GPS. Interestingly, it provides is a list of nearby hams, POTA locations, and other items of interest. There is a map you can switch to as well as a Grid chart showing adjacent grid squares. This (left) shows the three screens available in the app.

After the Activation: Another lesson I learned revolved around what happened when I got home and uploaded my contacts. While there are many ways to do this, I usually import WSJD-X's ADI file into N3FJP for upload into the Logbook of the World (LOTW) in addition to the POTA web site for POTA credit. When I went to upload from N3FJP to LOTW, it gave me an error message – The grid square was wrong! The fault was mine; I forgot to sign the contacts in TQSL with the correct grid square. Let me explain…

TQSL is the method ARRL uses to validate your contacts in LOTW. They are digitally signed by you. By default, TQSL uses your home QTH grid square. You, however, can add as many alternative locations as you want. To fix my error and allow these POTA contacts to be uploaded, I had to create an alternate location for John Bryan State Park matching the grid square.



This is the main page of the TQSL program (left). I don't normally use it for signing contacts, I use N3FJP instead, so I don't access TQSL very often. The part of TQSL I am interested in here involved the *Station Locations* tab. This is where you manage your valid locations.



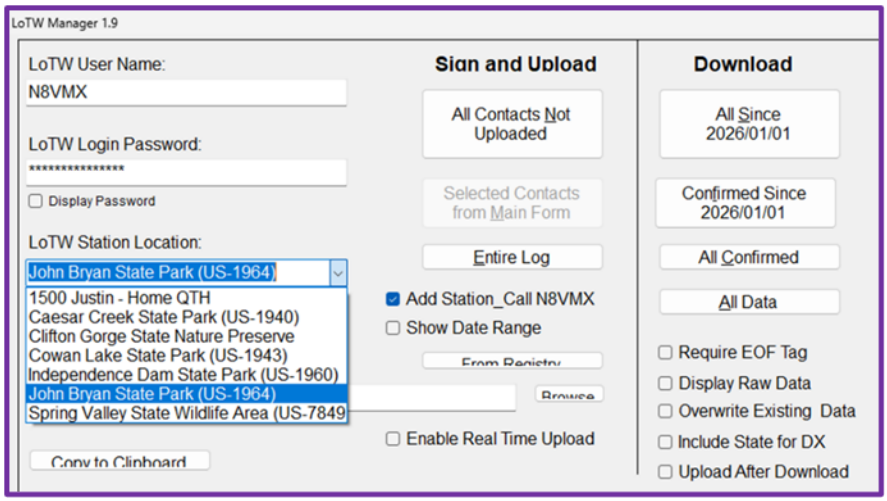
Looking at the Station Locations tab (right), you can see several locations are already defined, including my home QTH. I have added 5 POTA locations matching the 5 sites I have activated. This is where you create, edit, delete, or display your station locations.

(Continued on next page)

New Year's POTA Lessons Learned (continued)

To add a new station location, you click on the "*Create a new station location*" button. It would then pop up this dialog box (below) which you would populate.

This example shows the information for the Spring Valley State Wildlife Area Boat Launch (US-7849) that I showed in the Android app earlier. You will notice that one of the drop down menu boxes shows "Park". I don't fill in anything there; the choices ARRL put in that menu were extremely limited. Instead, after you click *Next*, you can enter a name for your station location, which is where I put in the park name and identifier. You are free to call it whatever you like, this is the convention I use.



Now that I had a valid station location defined in TQSL, I went back into N3FJP and started the LOTW upload process. Looking at the *LOTW Station Locations* (left), you can see the locations in TQSL are also shown in N3FJP. I just selected John Bryan State Park as my location, and all the contacts from my POTA activation were accepted by LOTW. I then uploaded the same contacts into the POTA app using Smart Logger and called it an evening!

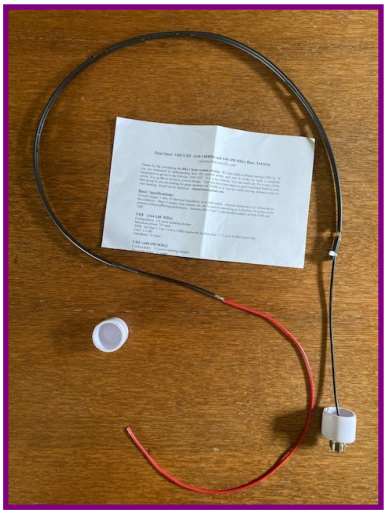
I'm sure that I will learn something new at every POTA activation, but I did learn this time that it helps a lot to prepare in advance, maybe the night before, to make things easier when you arrive at your activation. Even then, there may be things you forget, or unforeseen glitches, but as time goes on, those should be fewer and fewer.

Good luck on your next activation, I hope this helps you get on the air with FT-8!

73, Ray N8VMX

Thoughts About My New Ed Fong Antenna

Tom McClory, KE8FWZ



I scored an Ed Fong DBJ-1 VHF/UHF J-Pole Antenna at the August club meeting raffle. This antenna is available from Ed's Antennas. The antenna design was originally published in the February 2003 QST. This article plus the DBJ-2 article published March 2007 QST are great tutorials on how J-Pole antennas work, transmission line impedance matching, and transmission lines as RF traps. The papers provide enough detail that you can DIY build either antenna. But I found you need to skillfully measure the velocity factor and other RF parameters of the materials you procure, and adjust the measurements to the materials. Using Ed's kit was much easier. Ed has very high material quality control and I found trying to DIY the build just wasn't worth it.

The antenna kit is complete except for a 5 foot length of 3/4 inch class 200 PVC pipe. I purchased the PVC pipe from Lowes. ***[Editor: use only Lowes part number 23990. The 10-foot piece will make two antennas]***. This class 200 PVC is important as the antenna is tuned to the RF velocity factor of this PVC pipe. Schedule #40 PVC is thicker material slowing the RF wave thus a different velocity factor throwing off the antenna tune. Once the pipe was obtained and cut, it took about 10 minutes to assemble the antenna and within 30 minutes I had it mounted to a tripod and connected to the radio. Its first use was joining a Sunday BARC 2 meter net and I received full quieting signal reports. From my QTH, a 5 watt HT with a SignalStick whip made no contact with the repeater. I also tried a roll-up J-Pole made from lamp cord which made it into the repeater, but signal reports were "lots of bacon frying". The DBJ-1 was significantly better than my prior attempt s getting into the club repeater, and the claimed 2.1 dBi gain seems supported by experience. At UHF frequencies, a traditional 2-meter J-Pole antennas will resonate on 70 cm band, typically with -6 dB gain vs a 1/4 wave ground plane. At 70 cm, this antenna provides full 1/2 wave performance and 2.1 dBi gain with no compromise. The design is quite clever. The build quality is superb. I've been pleased with the results.

73, Tom KE8FWZ

Commercial AM Radio Shares Frequencies

Marv Sparks, K8MDS

Now, twelve hours into the long road trip from Dayton to Dallas Fort Worth, I twisted the radio dial again on the "AM only" Mustang radio. Listening to faraway stations helped pass hours and aided my escalating battle to stay awake.

The '67 Stang was packed with all my earthly belongings, leaving no room for driver comfort. The clutter of clothing, some books, personal care items, and an old ham radio set, filled every available space in the car, spilling onto the floorboards.

The car radio tuner centered on 820 kilocycles and 50 kilowatt WBAP, Fort Worth—Dallas was loud and clear. I heard this station several times while on the road from Dayton but something caused me to land on that frequency again and again.

Crazy as it seemed, the call letters had changed several times over the last twelve hours. I was puzzled since the clear channel AM signal was strong and my radio tuner was set to 820 KC.

Exiting the DFW Turnpike, at Texas Farm to Market road 157, I turned south to a Holiday Inn. The Inn was to be my temporary home while I started an uncertain job search before renting an apartment.

Rolling south on 157, I distinctly heard radio 820 identify again with a different call-sign. I sat in the Holiday Inn driveway waiting, for another station ID after a commercial stop set, just to be certain. Sure enough the call-sign had changed on 820 KC.

It was no longer WBAP but now identifying as WFAA.

The next morning I drove to my first radio station interview at a small daytimer on the outskirts of Fort Worth-Dallas. The old manager played my audition tape on his office Wollensak reel to reel tape recorder. He swiveled to look at me and leaned back thoughtfully. He took up his smoke with yellow stained fingers.

In a slow Texan drawl, worthy of any central casting talent call, he said "Son, we don't have a place for you here."

After a long pause, as I watched his Marlboro smoke spiral to the yellowed office ceiling tile, he locked eyes with me.

"You'd be better suited at WBAP up on Broadcast Hill. Good luck." That was all. No critique, no commentary, just leave now! So I got up and left that smoke filled office and the Marlboro Man look alike.

(Continued on next page)

Commercial AM Radio Shares Frequencies (continued)

In the Mustang, and driving back to Arlington, I heard 820 identifying this time as WBAP.

Remembering the desk girl at the Holiday Inn from my check in, I pulled up to the front lobby again. Sure enough that same pretty, petite blond was cheerfully at work behind the office desk. And she looked better today - if that was possible!

Entering the front lobby I nodded her way. She perked up with a brighter smile than ever. It was an invitation to help pass her slow afternoon lobby time.

We began with the usual greetings; weather, and what I was doing in Texas?

She said "Texans don't like Yankees from Michigan", with mischievous disdain.

She added with a sly smile, "Damn Michigan Yankees are coming from Detroit to take GM Arlington jobs away from Texans at the final assembly works!"

Quickly I reassured her that I was not from Michigan. In fact Ohioans don't like Michigan footballers either. So, thankfully, I found some common ground on that sunny afternoon!

Well, I'll leave it to your imagination how that pleasant afternoon unfolded, but I learned in quick summary that two rival newspaper empires had fought bitterly for market share. One newspaper was owner of WFAA (Dallas Morning News) and the other owner of WBAP (Fort Worth Star Telegram).

When the FCC awarded 820 KC to Fort Worth Star Telegram the rival newspaper, Dallas Morning News, wanted in the new idea of radio. And the battle was enjoined over more powerful clear channel 820 KC.

Eventually a deal was struck, and FCC blessed, sharing 820 equally with WBAP and WFAA to fill the broadcast day. To add to the fun they also agreed to equally alternate hours on 570 KC the regional 5 kilowatt frequency in the same Fort Worth—Dallas market.

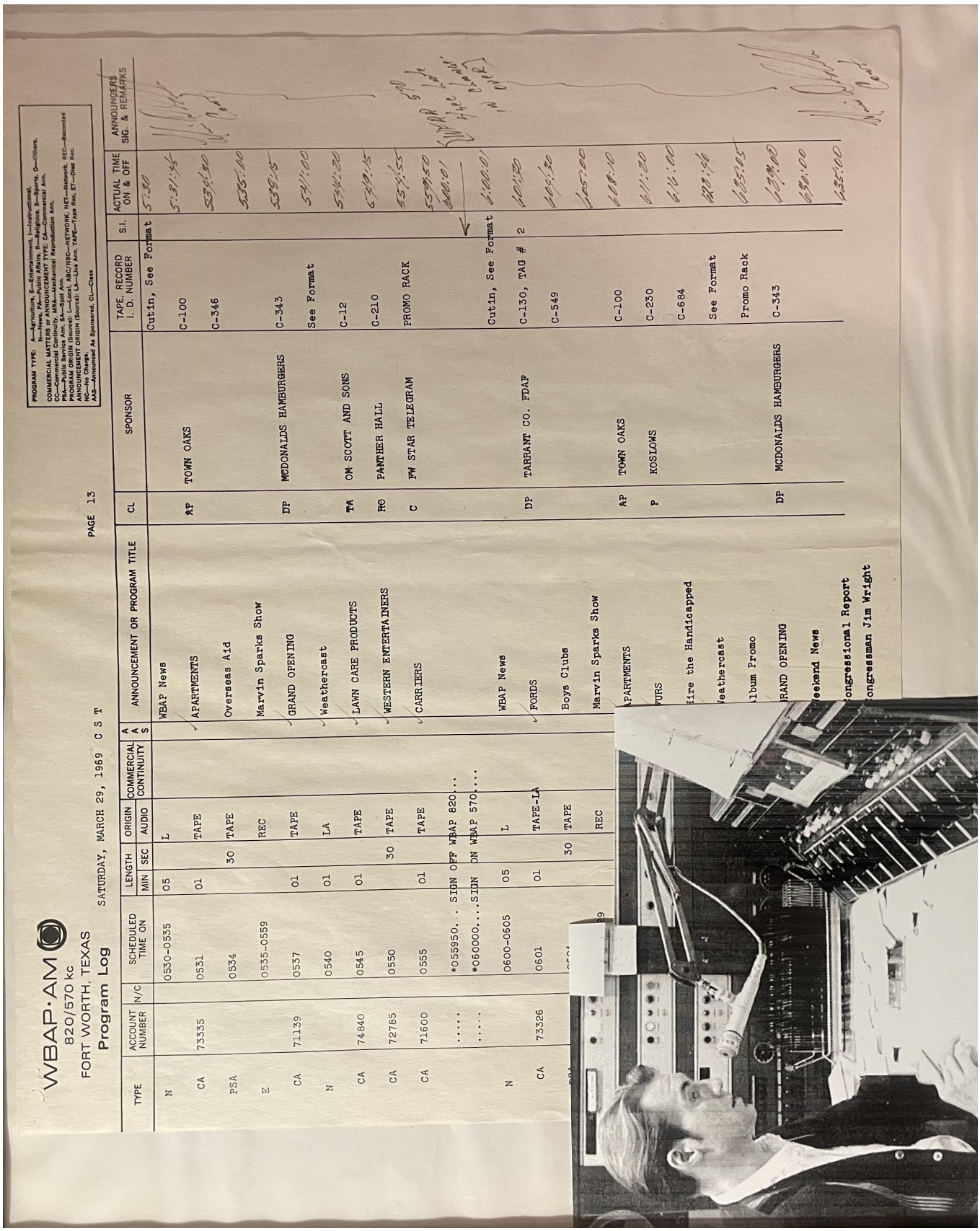
The next day I auditioned cold for a job at WBAP Fort Worth—Dallas. And that began a gig on WBAP Radio, and in the next year moving over to WBAP NBC 5, (now KXAS 5) where I met many of the NBC personalities making rounds in top U.S. markets promoting their network shows.

The log sheet (next page) shows how the radio frequency change-over was officially logged throughout the broadcast day of confusing call letter changes on 820 KHz and 570 KHz in Fort Worth—Dallas.

73, Marv, K8MDS

(Continued on next page)
Back to Table of Contents

Commercial AM Radio Shares Frequencies (continued)



WBAP·AM
820/570 kc
FORT WORTH, TEXAS
Program Log

SATURDAY, MARCH 29, 1969 C S T

PAGE 13

PROGRAM TYPE: A—Agriculture, E—Entertainment, I—Instructional, N—News, PA—Public Affairs, R—Religious, S—Sports, O—Others.
COMMERCIAL MATTERS or ANNOUNCEMENT TYPE: CA—Commercial Ann, CC—Commercial Continuity, MAM—Mechanical Reproduction Ann, PSA—Public Service Ann, PAL—Political Ann.
PROGRAM ORIGIN (Source): L—Local, ABC/NBC—NETWORK, NET—Network, REC—Recorded
ANNOUNCEMENT ORIGIN (Source): LA—Live Ann, TAPE—Tape Rec, ET—Disc Rec.
NC—No Charge
AAS—Announced As Sponsored, CL—Class

TYPE	ACCOUNT NUMBER	N/C	SCHEDULED TIME ON	LENGTH MIN	LENGTH SEC	ORIGIN AUDIO	COMMERCIAL CONTINUITY	A A S	ANNOUNCEMENT OR PROGRAM TITLE	CL	SPONSOR	TAPE, RECORD I. D. NUMBER	S.I.	ACTUAL TIME ON & OFF	ANNOUNCERS SIG. & REMARKS
N			0530-0535	05		L			WBAP News			Cutin, See Format			
CA	73335		0531	01		TAPE			APARTMENTS	AP	TOWN OAKS	C-100			
PSA			0534		30	TAPE			Overseas Aid			C-346			
E			0535-0559			REC			Marvin Sparks Show						
CA	71139		0537	01		TAPE			GRAND OPENING	DP	MCDONALDS HAMBURGERS	C-343			
N			0540	01		LA			Weathercast			See Format			
CA	74840		0545	01		TAPE			LAWN CARE PRODUCTS	TA	OM SCOTT AND SONS	C-12			
CA	72785		0550		30	TAPE			WESTERN ENTERTAINERS	RO	PANTHER HALL	C-210			
CA	71600		0555	01		TAPE			CARRIERS	C	FW STAR TELEGRAM	PROMO RACK			
	.....		*055950. . SIGN OFF WBAP 820...												
	.....		*060000....SIGN ON WBAP 570....												
N			0600-0605	05		L			WBAP News			Cutin, See Format			
CA	73326		0601	01		TAPE-LA			FORDS	DP	TARRANT CO. FDAP	C-130, TAG # 2			
									Boys Clubs			C-549			
			[illegible]9		30	TAPE			Marvin Sparks Show						
						REC									
									APARTMENTS	AP	TOWN OAKS	C-100			
									URS	P	KOSLOWS	C-230			
									Hire the Handicapped			C-684			
									eathercast			See Format			
									lbum Promo			Promo Rack			
									RAND OPENING	DP	MCDONALDS HAMBURGERS	C-343			
									eekend News						
									ongressional Report						
									ongressman Jim Wright						

Tech Night Planning Survey Results

Bob French, AC8ZU

I wanted to share a summary of the results from the **2026 BARC Tech Night Planning Survey**. My hope is that I can provide a clear snapshot of the survey data based on 39 responses.

Here's the skill level as reported by our 39 respondents:

Experience Level	Description	Percentage
Brand New	Never touched a breadboard or iron	**15%**
Beginner	Built kits, but "paint-by-numbers"	**35%**
Intermediate	Comfortable with theory and breadboards	**30%**
Advanced	Experienced builders / Potential Elmers	**20%**

The survey revealed two important takeaways:

1. Several projects show strong universal appeal across all experience levels.
2. Interests vary significantly by self-identified experience level.

Top Universal Interests

These projects received a significant number of "Very Interested" or "Somewhat Interested" responses across every skill group:

Meshtastic & Meshcore Nodes

Broad appeal across all experience levels. Experienced builders are interested in long-range mesh networking, while newer members want to learn ESP32 and LoRa fundamentals.

Raspberry Pi Ham Clock

Configuring a station clock to display solar indices, satellite passes, and spotting data is extremely popular with new and intermediate builders, with solid interest from experienced members as well.

Regenerative Receiver

Often described as the "Grand Finale," this toroid-winding and HF receiver build was one of the most consistently popular projects across all skill levels.

ADS-B Aircraft Tracker

Using an RTL-SDR and a custom antenna to track aircraft in real time (100+ mile range) ranked highly with both newcomers and experienced operators.

Audio Bandpass Filter

This practical "hiss-killer" for improving weak CW or SSB signals has wide appeal as a useful station accessory.

(Continued on next page)
Back to Table of Contents

Summary of 2026 BARC Tech Night Planning Survey (cont)

General Participation Preferences

Kit Solder Projects

These remain very popular with members who are brand new or have built only a few kits. Several experienced builders noted they would prefer to lead these sessions rather than attend them as students.

Practical Ham Tools

Projects such as passive RF sniffers and ham radio adapters maintain steady interest across all experience levels due to their immediate usefulness in the shack.

Highest-Scoring Projects Overall

Meshtastic & Meshcore Nodes	18 votes
Raspberry Pi Ham Clock	17 votes
ADS-B Aircraft Tracker	16 votes

Other High-Performing Projects

Regenerative Receiver	14 votes
Kit Solder Project	14 votes
Audio Bandpass Filter	14 votes
Ham Radio Adapters	14 votes
Electronic CW Keyer	13 votes

Interest Breakdown by Experience Level

Experienced Builders

Most Interested In: Regenerative Receiver, ADS-B Aircraft Tracker, Meshtastic & Meshcore Nodes, Twin-T Sine Oscillator

Not Interested In: Circuit basics, breadboard basics, LED logic, kit solder projects

Intermediate Builders

Most Interested In: Audio Bandpass Filter, Breadboard Basics, Kit Solder Projects, Raspberry Pi Ham Clock

Least Interested In: AM Transmitters, Solar Charge Controllers

Comfortable with Breadboards

Most Interested In: Raspberry Pi Ham Clock, Meshtastic, Breadboard Basics

Least Interested In: AM Transmitter, Twin-T Sine Oscillator, Dummy Loads

(Continued on next page)

Tech Night Planning Survey Results (continued)

Brand New to Electronics

Most Interested In: Raspberry Pi Ham Clock, ADS-B Aircraft Tracker, Electronic CW Keyer, Kit Solder Projects

Least Interested In: AM Transmitters, advanced theory projects

Other Requested Topics

Beginner: Using a volt meter, basic APRS stations

Intermediate: Antenna modeling, DMR hotspots, POTA computer setups

Advanced: LTSpice simulation, AC safety, isolation transformers, EM field shielding

Here are the raw response results:

Topic	Responses	Very Interested	Somewhat Interested	Not Interested
Meshtastic & Meshcore Nodes - Build an off-grid node while learning ESP32 basics to LoRa. (Breadboard?)	36	19 (52.8%)	9 (25.0%)	8 (22.2%)
Raspberry Pi Ham Clock - Configure a station clock to display real-time spotting, solar indices, satellite passes, and many other capabilities.	37	17 (45.9%)	11 (29.7%)	7 (18.9%)
ADS-B Aircraft Tracker - Use an RTL-SDR and custom antenna to track aircraft in real-time within 100+ miles	38	15 (39.5%)	14 (36.8%)	9 (23.7%)
Kit Solder Project - We need to do this in smaller groups	38	14 (36.8%)	13 (34.2%)	9 (23.7%)
Audio Bandpass Filter - A "hiss-killer" to make weak CW or SSB signals much easier to hear. (Breadboard)	37	14 (37.8%)	13 (35.1%)	9 (24.3%)
Crystal Radio - Pull audio from the air using a high-Q coil without any battery power. (Breadboard)	37	14 (37.8%)	9 (24.3%)	13 (35.1%)
Ham Radio Adapters - Practical workshop on mapping mic pinouts and matching levels for various transceivers. (Breadboard?)	37	14 (37.8%)	14 (37.8%)	8 (21.6%)
Regenerative Receiver - The Grand Finale: Wind toroids to build a sensitive HF receiver for live stations.	37	14 (37.8%)	13 (35.1%)	9 (24.3%)
Breadboard Basics - Learn to manage power rails and professional wiring on the 830-point board.	37	13 (35.1%)	13 (35.1%)	10 (27.0%)

(Continued on next page)
Back to Table of Contents

Tech Night Planning Survey Results (continued)

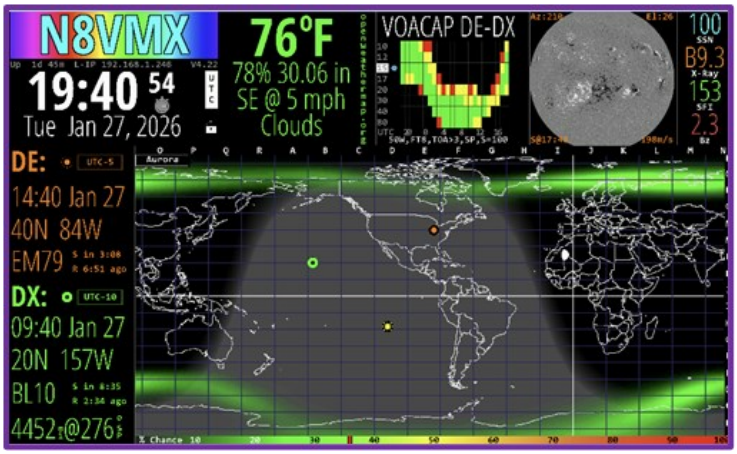
Solar Charge Controller - Design a circuit to safely manage solar panels for trickle-charging batteries.	37	13 (35.1%)	11 (29.7%)	13 (35.1%)
Series/Parallel - Hands-on demonstration of how voltage and current behave in different loops. (Breadboard)	37	11 (29.7%)	13 (35.1%)	11 (29.7%)
Electronic CW Keyer - Build the "brains" of a Morse keyer using logic gates and transistors. (Breadboard)	37	11 (29.7%)	14 (37.8%)	12 (32.4%)
Dummy Load - Design a 50-ohm match using parallel resistors to safely dissipate QRP RF power. (Breadboard?)	36	11 (30.6%)	8 (22.2%)	16 (44.4%)
Circuit Design - Fundamental DC circuit design (Breadboard)	38	10 (26.3%)	16 (42.1%)	10 (26.3%)
Passive RF Sniffer - A diagnostic tool that glows when your radio transmits to verify output power. (Breadboard)	36	10 (27.8%)	15 (41.7%)	10 (27.8%)
Morserino ESP32 Clone - A CW trainer with a digital display and DIY "capacitive touch" paddles. (Breadboard)	35	10 (28.6%)	13 (37.1%)	12 (34.3%)
Twin-T Sine Oscillator - Use math to design a pure, musical sidetone instead of harsh "beeper" sounds.	37	9 (24.3%)	14 (37.8%)	14 (37.8%)
LED Logic - Learn polarity and how to calculate resistance to prevent damaging components. (Breadboard)	36	9 (25.0%)	17 (47.2%)	9 (25.0%)
AM Transmitter - Build a low-power station transmitting audio across a room to learn RF fundamentals. (Breadboard)	38	7 (18.4%)	16 (42.1%)	15 (39.5%)
Circuits Basic - A gentle entry using batteries and buzzers to master the concept of current flow. (Breadboard)	38	7 (18.4%)	12 (31.6%)	17 (44.7%)
LM386 Audio Booster - Build a high-gain amplifier circuit capable of driving a speaker for receiver projects. (Breadboard)	35	7 (20.0%)	13 (37.1%)	14 (40.0%)

Answers to Amateur Radio Test Questions on pages 43-45

Technician (pg. 43)	General (pg. 44)	Amateur Extra (pg. 45)
T4A01 (D)	G2B04 (B)	E6E08 (C)
T7C01 (A)	G4E10 (B)	E1E01 (A) [97.527]
T0A04 (B)	G3C11 (D)	E2A11 (B)
T1B07 (A) [97.305(a), (c)]	G3A04 (D)	E5C06 (B)

Build a Hamclock using Raspberry Pi

Ray Hitt, N8VMX



Recently, Bob French, AC8ZU, conducted a Tech Night survey. The survey showed that building a Hamclock using Raspberry Pi was a high interest item for many BARC members. I offered to talk about building a Hamclock during an upcoming Tech Night. If you're interested, read this and get your parts together before Tech Night, even try installing it and see how far you get.

There are at least 3 scenarios to get a HamClock up and running using a Raspberry Pi. You can:

1. Build a standalone Raspberry Pi from scratch with its own monitor and run HamClock on that. This includes an option where you could mount the Raspberry Pi on the back of a monitor or TV equipped with a VESA mount. It would take up an HDMI port on the TV.

2. Build a "headless" Raspberry Pi, i.e., a Raspberry Pi without a display, keyboard, or mouse, that you administer via the SSH command from another machine using WiFi. The headless Pi can be set up to run Hamclock 24/7 and serve a web page to any of your devices on your home network. It can serve up to 10 devices at once.

3. Embed Hamclock in your Raspberry Pi DMR hotspot and set it up as a Hamclock web server like option 2. I have done this with WPSD DMR hotspot software, and it works on Pi-Star too.

You'd pick your favorite option(s) from among these, based on what you need to do in your QTH. Bear in mind that if you choose option 1, running Hamclock on a standalone Raspberry Pi, you still have the option to serve web pages to up to 10 devices at once, in fact you can use the Chrome or Firefox browser on this Pi to display HamClock full screen. I'll explain more as I go through the setup. You could also jump in with both feet and implement all these cases, if you have the Raspberry Pis to devote to this.

Which Raspberry Pi to use? There are Pi Zero, Pi Zero 2W, Pi-2, Pi-3, Pi-4 and Pi-5, plus the keyboard with embedded Pi-4 or Pi-5. There are multiple RAM options for the Pi-4 and Pi-5 too. So, a lot depends on which of these three use cases you are focusing on.

Use Case 1, a full graphical Desktop scenario, could be well handled by a Pi-4 running 4 GB. I have run HamClock in this situation and it updates the displays fairly quickly, but by no means is it a gaming computer. Pi-5 is much better if you can afford it, not so much for HamClock as for the benefits to other applications, like video/audio streaming over networks for example. The cost differential over a Pi-4 is not substantial.

(Continued on next page)

Build a Hamclock using Raspberry Pi (continued)

For **Use Case 2**, a headless Pi in console (text-only) mode, any of the Pis (except for the obsolete Pi Model A) would work. The compilation times on a Pi Zero are pretty bad, and the web pages won't be served up very quickly, but it will work. A Pi-3 Pi-4 or Pi-5 are probably the best option. Since you will be running HamClock and nothing else, this should work quite smoothly. No need for more than 2GB on the Pi-4 or Pi-5 in this scenario.

HamClock Use Cases	Pi Zero	Pi Zero 2W	Pi-2	Pi-3	Pi-4	Pi-5
Case 1 (Full Desktop)					4 or 8 GB	4 or 8 GB
Case 2 (Headless Standalone)		X	X	X	2 GB and up	2 GB and up
Case 3 (Headless DMR Hotspot)			X	X	2 GB and up	2 GB and up

For **Use Case 3**, headless in a DMR hotspot, since you're running a real-time application, the DMR hotspot, you don't want to bog down the DMR traffic with HamClock running on a slower processor. While I have tested HamClock running on a DMR hotspot running on a Pi Zero 2W, I felt uncomfortable doing it, the pages didn't update quickly and the hot spot web page seemed more sluggish too. However, on a Pi-3 it works quite well. I didn't test it on a Pi-2, since I ruled Pi-2 out for a DMR hotspot already. Pi-2's are getting hard to find as well, but if you have one you can certainly try it.

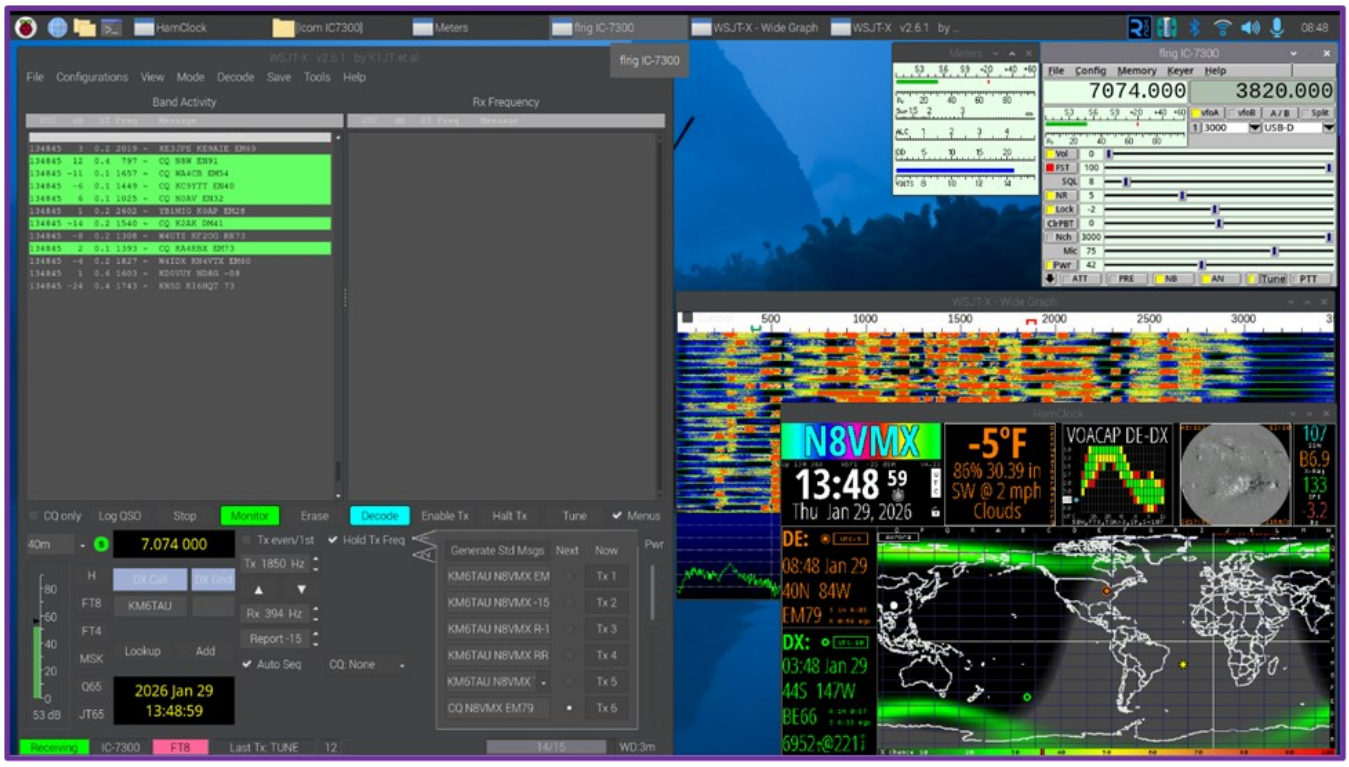
Details: Use Case 1—Build HamClock on Standalone Raspberry Pi

This option is useful if you have a standalone Raspberry Pi with display that you use for other purposes. It runs in full graphics mode with mouse, so I ***would not*** recommend using a Raspberry Pi3, RPi2 or Pi Zero, they don't have enough horsepower and you'd be frustrated. I use a Raspberry Pi5 for CAT control of my Icom IC-7300 and WSJT-X or FLDigi when I am operating digitally. It has enough horsepower to simultaneously run HamClock, and browse the internet, play videos, whatever you want. The picture (next page) shows an 800x600 Hamclock window along with WSJT-X and FlRig. On this setup, HamClock can be compiled to run on its own display (windowed or full screen) directly, or set up as a full-screen web page that can be either access by its own web browser, or on any web browser on your PCs, tablets, phones, even some TVs throughout your home. On my setup, I compile two resolutions for on-screen display, and 4 resolutions for web browser use (including the browser on the Raspberry Pi5 itself). I put shortcuts on the Desktop for all these options. Turns out the browser resolutions are much higher than what can be compiled for direct display, and when operated in full-

Direct Mode Display (X-11 window)	Web Page Display
800x600 pixel ***hamclock-800x600***	800x600 pixel ***hamclock-web-800x600***
1600x960 pixel ***hamclock-1600x960***	1600x960 pixel ***hamclock-web-1600x960***
2400x1440 pixel (on supported monitors) ***hamclock-2400xx1440***	2400x1440 pixel ***hamclock-web-2400xx1440***
3200x1920 pixel (on supported monitors) ***hamclock-3200x1920***	3200x1920 pixel ***hamclock-web-3200x1920***

(Continued on next page)
Back to Table of Contents

Build a Hamclock using Raspberry Pi (continued)



screen mode in Chrome, Firefox, etc., they occupy the full pixel resolution of the monitor, resulting in a much better display. I recommend this mode even if you're operating the Raspberry PI5 with its own monitor. I assume a 1920x1080 monitor, if you have a higher resolution, more options exist.

These resolutions look the same, and you'd be right. The big difference is that with the web page display will scale up or down to your monitor size, while the direct mode display will not. For example, I use a 1920x1080 monitor which would scale the 3200x1920 pixel display down to fit, where a 1600x960 pixel direct mode window would be the largest available, and it doesn't scale to fit the screen, the best it would do is put a large black bar around your HamClock.

To run HamClock, you need to compile it from source code on your Raspberry Pi. The details can be found on the HamClock web page. The detailed build instructions are under the *Desktop* tab. The User Guide for the most recent version of HamClock is available under the *User Guide* tab. Read the User Guide because features change every time a new version comes out (current version is 4.22).

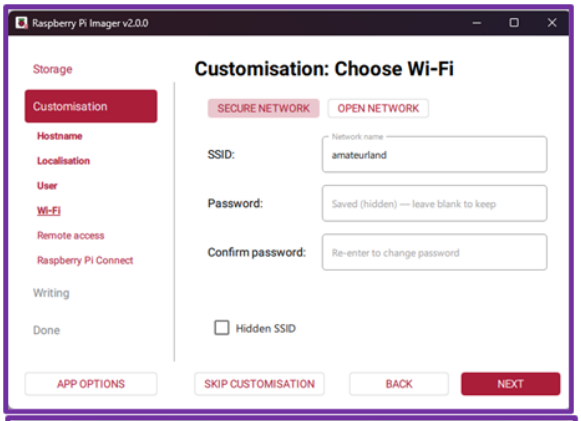
Details: Use Case 2—Build HamClock on a Standalone generic headless Raspberry Pi

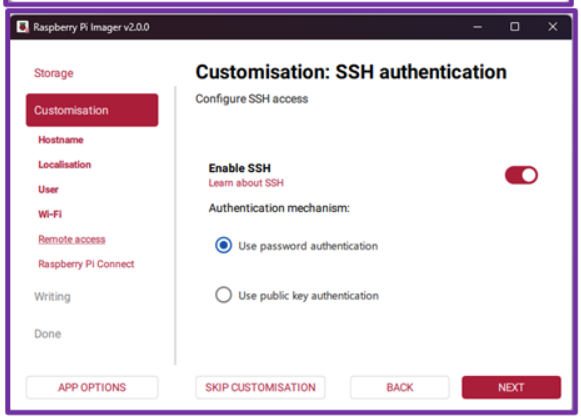
A "headless" Raspberry Pi probably sounds creepy to you unless you're a heavy computer user. Headless means that there is no display, keyboard, or mouse connected to the Raspberry Pi. This is done mainly for Pis that boot up and run a task that doesn't require input. Instead, you access it remotely using the ssh command from your computer, tablet, or phone, or a web browser to interact with the running HamClock app. I use headless Raspberry Pis as NTP time servers, and other Pis as headless DMR hotspots.

(Continued on next page)

Build a Hamclock using Raspberry Pi (continued)

To build a headless Raspberry Pi, you don't download the full GUI-based feature-laden version of Raspberry Pi OS that is normally used. Instead, you'd pick *Raspberry Pi OS (other) =>Raspberry Pi OS Lite/A port of Debian Trixie* ***with no desktop environment*** *(Compatible with Raspberry Pi3/4/400/5)*. You'd then proceed through the Raspberry Pi Imager's prompts. While you have to answer every question asked in the Customization menu there are a couple that you really need to pay attention to if you want to be able to log into your RPi later. They are *WiFi* and *Remote Access*. For *WiFi,* it's pretty explanatory, you need to enter the WiFi name and password where you'll be connecting for the first time. It might be your home WiFi, a mobile hotspot, or even the BARC WiFi (if you're doing this at Tech Night). Also, to log in remotely, you need to enable *SSH* under the *Remote Access* menu. Everything else is pretty much self explanatory. Once the SDCard is written on your computer, you can insert it into your Raspberry Pi and boot it up.





Pro Tip: Even though this is a headless setup, you still can connect a keyboard and monitor to this computer in case you run into issues. I usually do connect a keyboard and monitor the first time just to make sure it's running as I expected. Also, if you need to add multiple Wifi connections, this would be the best way to do it. Plugging in an Ethernet cable before you set up WiFi is also a good practice. You can do away with the Ethernet after WiFi is working.

Even while logged in with your keyboard and monitor, you also log into it with your laptop/computer as well just to see if SSH works. SSH is available in a Windows tool called **PuTTY** which puts a small terminal screen on your Windows screen which would be the window into your Raspberry Pi. You wouldn't use PuTTY or your local keyboard to run HamClock, only to maintain the Raspberry Pi, install HamClock, perform updates, troubleshooting and so on. HamClock is accessed through a browser, Firefox or Chromium.

Once SSH is running, you can run the commands manually to build HamClock. You are limited to the web page versions since you have no desktop display. There's no harm in simply choosing the largest display, ***hamclock-web-3200x1920***, because the web page will autoscale to your monitor's size, and this highest resolution will give you the best graphics. Note that when the command make install is executed, it moves the executable file (ex. hamclock-web-3200x1920) to the /usr/local/bin folder and renames the file to hamclock. If you want to retain the original name (like I do to allow multiple versions of hamclock to exist), don't run the `make install` command but instead just type:

```
sudo mv ~/ESPHamClock/hamclock-web-3200x1920 /usr/local/bin
```

(Continued on next page)

Build a Hamclock using Raspberry Pi (continued)

Details: Use Case 3—Build HamClock on a Raspberry Pi-based DMR hotspot

Direct Mode Display (X-11 window)	Web Page Display
800x600 pixel ***Not Available***	800x600 pixel ***hamclock-web-800x600***
1600x960 pixel ***Not Available***	1600x960 pixel ***hamclock-web-1600x960***
2400x1440 pixel ***Not Available***	2400x1440 pixel ***hamclock-web-2400xx1440***
3200x1920 pixel ***Not Available***	3200x1920 pixel ***hamclock-web-3200x1920***

This use case is very handy if you already have, or want to have, a DMR hotspot running either pi-star or WPSD software. These DMR hotspots are built using custom images downloaded directly from pi-star or WPSD's websites. They already include most of the tools needed to manually compile and install a HamClock which could run in the background and serve a HamClock web page to a remote computer on the network. The one caution I would have, based on my own experience, is that while you can compile HamClock and have it in your home directory, once you move it into a more typical directory like `/usr/local/bin`, the file runs the risk of being purged when the system performs normal upgrades of the DMR software. I have noticed this happen with WPSD, but have not tested pi-star to see if it does that too. However, any files left in your home directory are left alone, so if you compile HamClock and move it into your home directory and leave it there, it should be OK.

I have already written on building DMR hotspots, it's a lengthy process in itself and beyond the scope of this article. Check the references and download the particular article to help you build the DMR hotspot. There is also a article in December 2024's Full Quieting on how to add HamClock to a DMR hotspot. I would recommend following the procedures in that article with the exception to **avoid moving the file into /usr/local/bin** which is something that I uncovered after writing that article.

If this is of interest to you, gather up your Raspberry Pi, a blank SDCard (64 GB seem to be the most economical right now and way more than what is needed), and come to our upcoming Tech Night when we will set your Raspberry Pis up. Keep an eye on e-mails from Bob, AC8ZU advertising which month we will be doing this.

[Note: I just heard that the HamClock creator Elwood Downey WB0OEW(sk) passed away on January 29, 2026 and that HamClock end-of-life is June 30, 2026. I'm hoping the community comes up with a solution to keep this awesome product going. Contact me for the install file that has been taken off line for the time being. RIP Elwood, and thanks for making HamClock available.] *Story link*

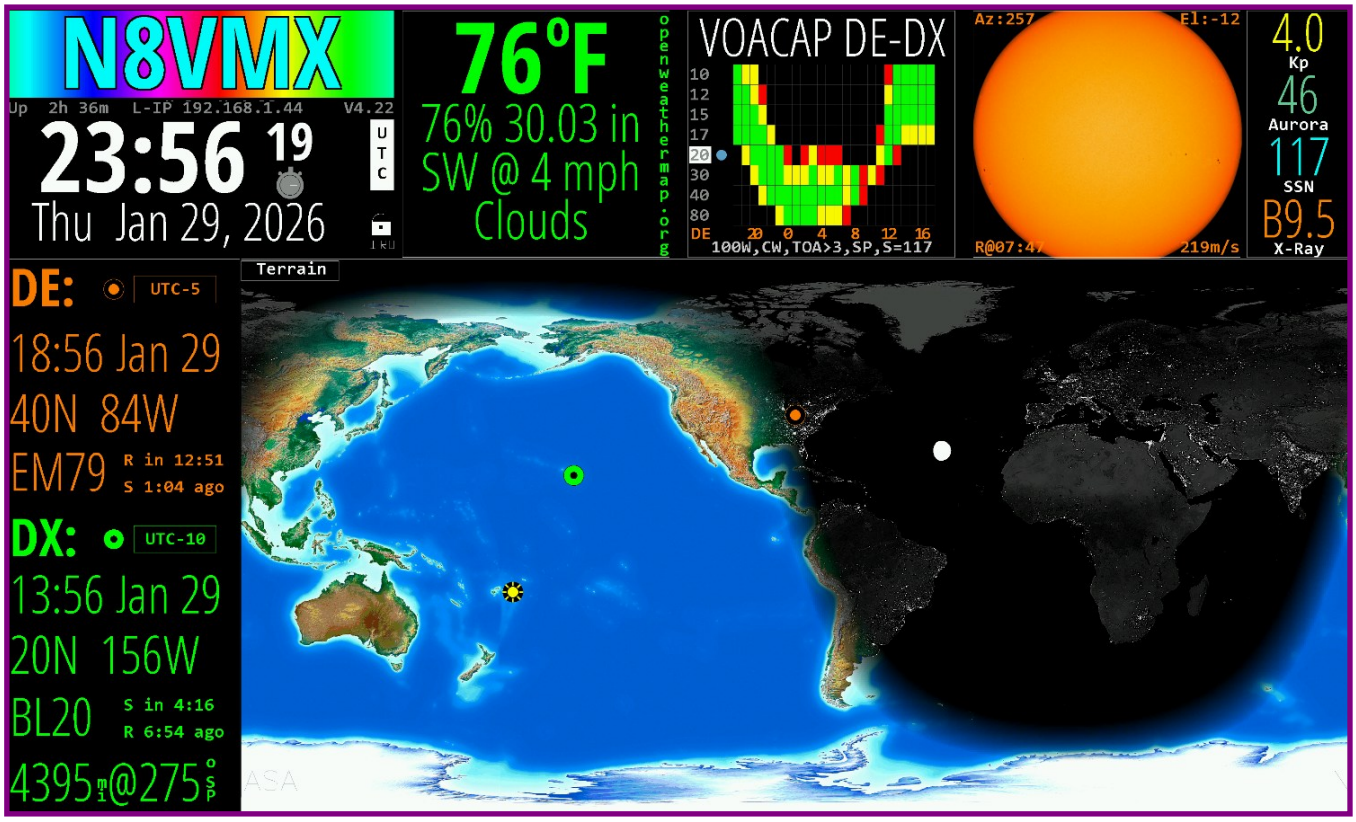
73, Ray N8VMX

(Continued on next page)
Back to Table of Contents

Build a Hamclock using Raspberry Pi (continued)

References

1. Pie? No, I'll have a Raspberry Pi!, *November 2021 Full Quieting, pg 22-24*
2. Introduction to HamClock, *April 2022 Full Quieting, pg 8-10*
3. HamClock Update 2.89, *March 2023 Full Quieting, pg 16*
4. DMR – Setting Up a Pi-Star Hotspot, *December 2023 Full Quieting, pg 14-17*
5. DMR – Setting Up a WPSD Hotspot, *January 2024 Full Quieting, pg 17-21*
6. First Look at the Raspberry Pi-5, *February 2024 Full Quieting, pg 23-28*
7. New HamClock Version 4.14, *March 2024 Full Quieting, pg 10-12*
8. Build-A-Hotspot (BAH), *April 2024 Full Quieting, pg 12-19*
9. Building A PiAware ADS-B Decoder, *April 2024 Full Quieting*, 20-22
10. Unlocking Web-based HamClock, *November 2024 Full Quieting, pg 16-17*
11. Adding HamClock to your DMR Hotspot, *December 2024 Full Quieting, pg 14-16*



Build a Hamclock using Raspberry Pi (continued)

Instructions for setting up HamClock on a new Raspberry Pi

From https://www.clearskyinstitute.com/ham/HamClock/ (see FAQ 4)

1. If you are absolutely completely new, start at raspberrypi.org.
2. If you don't have a Pi yet, I would start with a model 4b with 1 GB RAM. The smaller Pi models such as Zero W will work (see FAQ 56), but the 4b is definitely more responsive. Many places sell Pis or you can see the official list of vendors here. Pis are a little hard to find now but a current list of vendors with stock is here.
3. For a display you can use a small touch screen such as the official Pi 7" LCD. Or you can use any HDMI LCD display you might have or buy one such as this one with which you will also need a keyboard, mouse and perhaps a micro HDMI adaptor.
4. If you don't already have one, buy a microSD card such as this one.
5. Insert the microSD card into your desktop computer. If your computer does not have micro-SD port, you can try a USB adaptor such as this one.
6. Download and install the Raspberry Pi Imager.
7. Start the program and burn your microSD card with RPi operating system as follows:
    8. click **Choose OS**
    9. select the first choice on top (**Raspberry Pi OS 64-bit**)
    10. click **Choose Storage**
    11. select the microSD you just inserted
    12. click **Write**
    13. wait for it to complete writing and verifying
    14. remove the microSD card when it says it is finished
15. Insert the microSD card into your RPi
16. Connect a keyboard, mouse, ethernet and display to your RPi
17. Connect power to the RPi
18. After a minute or so you will see the Desktop
19. Work through the setup menus
20. Start a browser by clicking the red raspberry in the upper left corner then Internet ⇒ Chromium
21. Go to my project web page at https://clearskyinstitute.com/ham/HamClock
22. Start a terminal by clicking the red raspberry again then Accessories ⇒ Terminal
23. Follow the instructions on my Desktop tab (*Install HamClock on Debian Systems*)
24. Read the User Guide to get the most from HamClock

(Continued on next page)
Back to Table of Contents

Build a Hamclock using Raspberry Pi (continued)

To install HamClock on Debian systems follow these steps:
(works for RPi too if you prefer the scenic route)

1. Open a terminal directly on the target system GUI desktop to get a command line prompt.
2. Run these commands (use copy/paste to avoid typos):

```
cd ~
rm -fr ESPHamClock
curl -O https://www.clearskyinstitute.com/ham/HamClock/ESPHamClock.zip
unzip ESPHamClock.zip
cd ESPHamClock
make -j 4 hamclock-800x480
sudo make install
```

If you get errors:

on **Raspberry Pi or other Debian** try loading these packages:

```
sudo apt-get update
sudo apt-get -y install curl make g++ libx11-dev libgpiod-dev xdg-utils
```

on **Ubuntu** try loading these packages:

```
1sudo apt install curl make g++ xorg-dev xdg-utils
```

3. Now run HamClock by typing:

```
hamclock &
```

4. Be sure to read the User Guide to get the most from HamClock!
5. To exit `hamclock`, click the padlock icon then choose *Exit hamclock*.
6. The example `make` command above will build HamClock with 800x480 pixels. You can also make these sizes:

```
hamclock-1600x960
hamclock-2400xx1440
hamclock-3200x1920
```

If you change sizes, add `make clean` and redo the commands again, for example:

```
cd ~/ESPHamClock
make clean
make -j 4 hamclock-2400x1440
sudo make install
```

7. If you would like to operate HamClock from any browser on your LAN, see FAQ 14.

(Continued on next page)
Back to Table of Contents

Build a Hamclock using Raspberry Pi (continued)

8. If you would like HamClock to fill the screen, set that option on Page 5 of Setup. With this option HamClock will still be the same screen size you built, but it will fill any surrounding gap with black so there is nothing else showing. If you really want HamClock to use all available screen space, see the FAQ 12 about xrandr.

9. If your system is XDG compliant and you would like a Desktop icon with which to start HamClock, try these commands:

```
cd ~/ESPHamClock
mkdir -p ~/.hamclock
cp hamclock.png ~/.hamclock
cp -p hamclock.desktop ~/Desktop
```

10. Similarly, if you would like HamClock to start automatically when you boot your system, try these commands (***only in Desktop GUI mode***):

```
cd ~/ESPHamClock
mkdir -p ~/.config/autostart
cp hamclock.desktop ~/.config/autostart
```

11. [Editor: To start Hamclock automatically when you boot up your session in Console (text-only) mode:

```
crontab -e
```

When in crontab, add the following line using the *nano* editor, then hit CTRL-X to save and exit crontab:

```
@reboot /usr/local/bin/hamclock
```


(Continued on next page)
Back to Table of Contents

Build a Hamclock using Raspberry Pi (continued)

[Editor: To add additional WiFi connections, there's a new process in Bookworm and Trixie that I have not discussed before. Here are the new relevant commands to set up multiple networks.]

To make sure your WiFi is on (it almost always is):

```
sudo nmcli radio wifi on
```

To scan for available networks:

```
sudo nmcli --fields SSID,SIGNAL,SECURITY dev wifi list
```

To connect to a network and create a persistent profile:

```
sudo nmcli dev wifi connect "Your-SSID" password "Your-Password"
```

To add persistent profile for networks not in view (command is one wrapped line) :

```
sudo nmcli connection add type wifi con-name "My-Home-WiFi" ifname wlan0
ssid "Your-SSID" wifi-sec.key-mgmt wpa-psk wifi-sec.psk "Your-Password"
```

To activate a specific profile:

```
sudo nmcli connection up "My-Home-WiFi"
```

To see all saved connection profiles:

```
nmcli connection show
```

To see details of a specific connection:

```
nmcli connection show "My-Home-WiFi"
```

To turn a saved connection on/off:

```
sudo nmcli connection up "My-Home-WiFi"
sudo nmcli connection down "My-Home-WiFi"
```

To delete a connection profile:

```
sudo nmcli connection delete "My-Home-WiFi"
```

To check current status / IP:

```
nmcli
ip addr show wlan0
```

Building a PiAware ADS-B Decoder

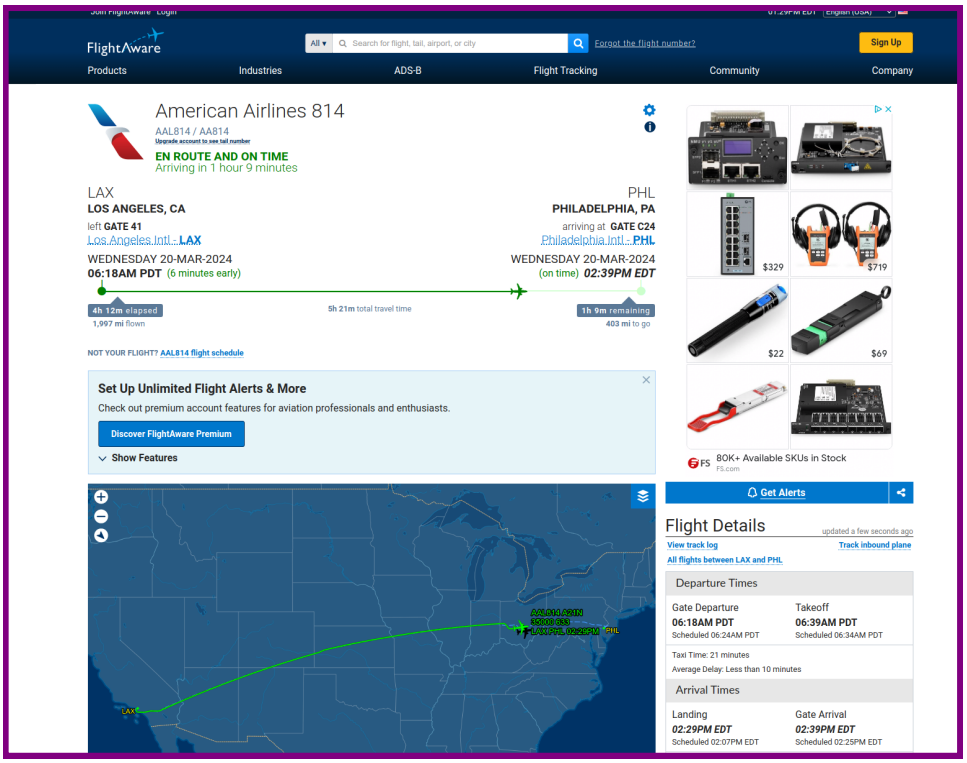
John Westerkamp, W8LRJ

What Is ADS-B?

Have you ever used the *FlightAware* website to monitor a flight before take-off or landing? Where do the data come from that are used to display the flight track, velocity, and altitude? It turns out that all aircraft are now required to broadcast flight information using a protocol known as ADS-B, Automatic Dependent Surveillance–Broadcast. In this article, we will look at building an ADS-B ground station and sending the data to *FlightAware*.

The ADS-B Decoder

The *FlightAware* website has detailed step-by-step instructions on how to build a PiAware ADS-B decoder using a Raspberry Pi 3B+ (minimum) and their own *PiAware* software image for the RPi. You can also find a complete kit from *FlightAware* that includes their own SDR dongle (Software-Defined Radio) and a 1090 MHz antenna. I would recommend the following parts if you want to build your own (this is what I did).



- RTL-SDR V3 (SDR USB dongle)
- Micro SD card (16 GB or larger)
- 1090 MHz Bandpass Filter
- LNA4All (low noise amplifier)
- 1090 MHz Antenna (build your own; see below)

I recommend finding the combined 1090 MHz filtered preamp that combines the bandpass filter and the amplifier (also available on Amazon but they are currently out of stock). The bandpass filter and amplifier help to extend the range of your ADS-B receiver by cutting out out-of-band noise and boosting the ADS-B signal. Power to the amplifier is provided by the RTL-SDR using its *Bias Tee* capability (power is supplied over the coax connection).

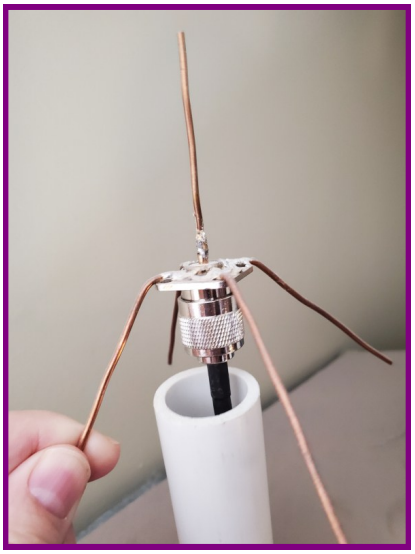
I also recommend building your own 1090 MHz antenna because it's easy and fun! Let's do that next.

(Continued on next page)

Building a PiAware ADS-B Decoder (continued)

Building a 1090 MHz Antenna

The basic design for a simple 1090 MHz antenna is a quarter wave ground plane antenna. This design uses a single vertical with four radials. Since the frequency is so high, the length of the vertical and the radials is on the order of 2.5-3.0 inches. You can use the ground plane antenna calculator to get your lengths. Attach everything together with a chassis mount N-type female or SO-239 connector and you have a very nice antenna.

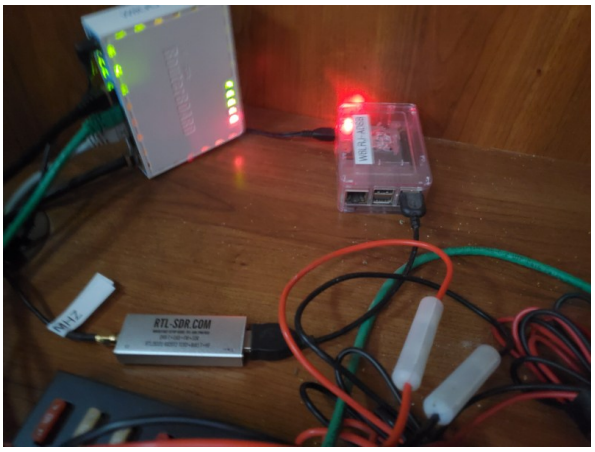


For the wires, I used some *Romex* residential wiring cable and stripped off all the insulation. The *Romex* wire is very stiff, so holds up on the antenna very nicely. The vertical wire should be soldered into the back of the connector (where the conductor would go) with the coax side facing downward. The radials can be soldered to the base or connected with machine screws and lock washers and nuts. Note that soldering to the base is tricky as the heat is easily conducted away. The radials should be bent to form a 45 degree down angle with the horizontal. The 45 degree angle ensures that the impedance of the antenna is 50 ohms. Adjusting the angle will change the impedance.

I mounted the chassis on top of a short length of PVC and ran the coax through the PVC to the chassis. This was so the antenna would stand on a top shelf in my shack.

Putting It All Together

Building the *PiAware* ADS-B decoder essentially involves burning the *PiAware* software image onto a Micro SD card, placing the SD card into the Raspberry Pi (RPi), and booting. You should be connected to the Internet with either an Ethernet cable or by setting up the optional WiFi on the SD card before booting it in the RPi. This will allow the *PiAware* software to "phone home" to *FlightAware* so that you can set up your client on the *FlightAware* website (details are on the *PiAware* website).



(Continued on next page)

Building a PiAware ADS-B Decoder (continued)

Before firing up the RPi, connect everything together as shown in the photos. The antenna is connected to the 1090 MHz bandpass filter which then goes to the LNA4ALL low-noise amplifier. This is connected to the RTL-SDR via an SMA connector and then to the RPi over a USB cable.

Enabling Bias T

If you use the LNA4ALL, you will need to download and install *rtl_biast* and then make sure it runs before the P*iAware* software startup. This enables the Bias Tee output on the RTL-SDR to power the LNA. First, download and build the *rtl_biast* software using the following Linux commands:

```
git clone https://github.com/rtlsdrblog/rtl-sdr-blog
cd rtl-sdr-blog
mkdir build
cd build
cmake .. -DDETACH_KERNEL_DRIVER=ON
```

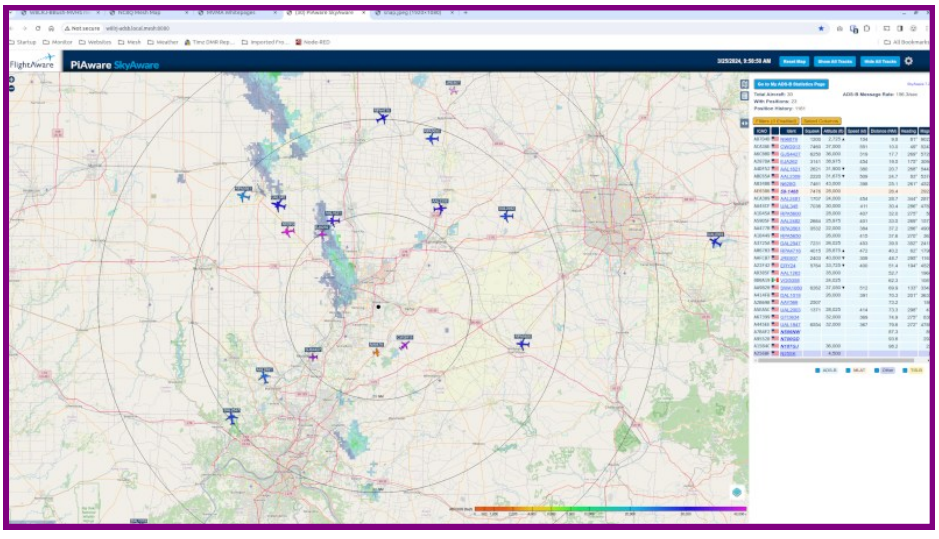
Next, copy the *rtl_biast software to the /usr/bin directory.*

```
cd src
sudo cp ./rtl_biast /usr/bin/rtl_biast
```

Now go to the directory */etc/systemd/system/dump1090-fa.service* and create a file called *bias-t.conf* and add the following to it with your favorite editor (you may need to use the sudo command with your editor).

```
[Service]
ExecStartPre=/usr/bin/rtl_biast -b 1
```

Now reboot the RPi and you should be up and running! Just point your browser to your RPi IP address and add *:8080* to use the *PiAware* port and you should see the screen below. Click on any airplane and you can bring up its *FlightAware* details. You can use the little gear in the upper right corner to format your display to your liking (like setting your location, adding weather, and adding range circles as shown).



73 de W8LRJ

[Editor: This is a reprint of John's article from the April 2024 Full Quieting. This is the topic of Tech-Night for February 2024]

Special Event Stations for January

Paul Sharp, WS8R

Here are a 2 links you can follow to find many SES that suit your varied interest. I may repeat and update some of these links as there are only a few sites focused on SES.

http://www.arrl.org/special_events/search/page:2/model:Event.

https://www.qsl.net/va3rj/spevents_dx.html. This link list a lot of SES in Europe and Russia.

Here is my pick of the litter of SES that I think will be of interest to my fellow BARC members. January was a slow month; February is even slower with very few SES. There are SES commemorating: Discovery of Pluto (the planet, not the dog), George Washington's birthday party, frozen lake, Iwo Jima Flag raising, Valentine's Day, Antarctic Activity week, Snowbird Field Day, and for all of us old enough to remember the advertisements for GERATOL.

02/14/2026 | 6th Annual Pluto Discovery Anniversary S.E. Feb 14-Feb 22, 0000Z-2359Z, W7P, Flagstaff, AZ. Northern Arizona DX Association. 14.266 21.366 28.366 7.266. Certificate & QSL. W7P -Pluto Special Event, 6315 Townsend Winona Rd, Flagstaff, AZ 86004**. www.nadxa.com**

02/14/2026 | George Washington's Birthday at Mount Vernon. Feb 14-Feb 15, 1000Z-0300Z, K4US, Alexandria, VA. Mount Vernon Amateur Radio Club. 7.042 7.242 14.042 14.242. QSL. MVARC, P.O. Box 7234, Alexandria, VA 22307. **mvarc.org**

02/14/2026 | Ice Station WØJH - Frozen Minnesota Lake Portable. Feb 14-Feb 16, 1600Z-2300Z, W0JH, Stillwater, MN. Stillwater (MN) Amateur Radio Association - SARA. 21.360 14.260 7.260 3.860. Certificate. Shel Mann, 1618 Pine St W, Stillwater, MN 55082. **www.Radioham.org**

02/14/2026 | Iwo Jima Flag Raising. Feb 14, 1700Z-2359Z, NI6IW, San Diego, CA. USS Mdway Museum Ship. 14.320 7.250 14.070 PKS31 DSTAR on Papa System Repeaters. QSL. USS Midway Museum Ship, 910 North Harbor Drive, San Diego, CA 92101.

02/14/2026 | President Day/Lincoln Birthday Celebration. Feb 14-Feb 15, 1600Z-2200Z, N9L, Metamora, IL. K9WRA/Woodford County IL Repeater Association. 7.205 MHz. QSL. Greg Hollenberg/ K0GSH, 407 S Henry Street, Eureka, IL 61530. **k9wra.repeater@gmail.com**

02/14/2026 | Valentines Day Special Event. Feb 14, 1700Z-2300Z, AB5ER, Romance, AR. North Central Arkansas Amateur Radio Service . 14..260. Certificate. Roger Gray, North Central Arkansas Amateur Radio Service , PO Box 166, Searcy, AR 72145-0166. http://www.ncaars.org

Special Event Stations for January

02/14/2026 | War Shipping Administration created 1942. Feb 14, 1330Z-2100Z, K3S, Port of Baltimore. Nuclear Ship Savannah ARC. 7,14,18,21,28 MHz. QSL. Ulis Fleming, 980 Patuxent Rd, Odenton, MD 21113. qrz.com/db/k3s

02/16/2026 | Antarctic Activity Week. Feb 16-Feb 22, 0000Z-2359Z, K4C, McDonough, GA. World Antarctic Program. 14.270. QSL. Robert Hines, 1978 Snapping Shoals Rd, McDonough, GA 30252. k4mzu.net

02/18/2026 | Dry Torturgas. Feb 18-Feb 23, 0000Z-0600Z, N4T, Mount Joy, PA. KC3YQL. 7.238 14.336. QSL. Molly Sauder, 1509 Pinkerton Rd, Mount Joy, PA 17552. mollyandfriends6@gmail.com

02/23/2026 | Republic of Texas SES. Feb 23-Apr 21, 0000Z-2359Z, WA5DTK, Montgomery, TX. TX History Operators Club. 7.030 7.230 14.040 `4.260. QSL. Barry Brewer, 10519 Bilsing Ct, Montgomery, TX 77356.

02/25/2026 | Annual Snowbird Field Day. Feb 25, 1500Z-2359Z, W7ASL, Mesa, AZ. Sunlife Amateur Radio Club. 50.329 28.329 21.329 14.329. QSL. Tom Goforth, 4324 East Dragoon Circle, Mesa, AZ 85206. sunlifearc.org

02/28/2026 | 2026 Rare Disease Day Special Event. Feb 28, 0000Z-2359Z, N4R, Sparta, TN. KR4EE. 14.070 14.080 28.074 21.074. QSL. Jill Dybka, 7737 Sparta HWY, Sparta, TN 38583. KR4EE@arrl.net

02/28/2026 | Freeze Your Keys - 22nd Winter Operating Event. Feb 28, 1400Z-2200Z, W0EBB, Leavenworth, KS. Kickapoo QRP ARC. 7.035 CW 7.240 SSB 14.058 CW 14.325 SSB. QSL. Gary Auchard - W0EBB, 34058 167th Street, Leavenworth, KS 66048. Please send a SASE with your QSL card. Other bands will be used also if open. w0mna74@gmail.com

03/03/2026 | GERATOL NET 50 Plus Years of Service. Mar 3-Mar 14, 0001Z-2359Z, N1KL, Wheelwright, MA. GERATOL NET. 3.668 Extra Class Frequencies on HF. QSL. Kevin Lynch, POB 124, Wheelwright, MA 01094. geratol.net

Amateur License Test Questions

Answers are on page 27

Technician

T4A01

Which of the following is an appropriate power supply rating for a typical 50 watt output mobile FM transceiver?

A. 24.0 volts at 4 amperes
B. 13.8 volts at 4 amperes
C. 24.0 volts at 12 amperes
D. 13.8 volts at 12 amperes

T7C01

What is the primary purpose of a dummy load?

A. To prevent transmitting signals over the air when making tests
B. To prevent over-modulation of a transmitter
C. To improve the efficiency of an antenna
D. To improve the signal-to-noise ratio of a receiver

T0A04

What is the purpose of a fuse in an electrical circuit?

A. To prevent power supply ripple from damaging a component
B. To remove power in case of overload
C. To limit current to prevent shocks
D. All these choices are correct

T1B07

Which of the following VHF/UHF band segments are limited to CW only?

A. 50.0 MHz to 50.1 MHz and 144.0 MHz to 144.1 MHz
B. 219 MHz to 220 MHz and 420.0 MHz to 420.1 MHz
C. 902.0 MHz to 902.1 MHz
D. All these choices are correct

(Continued on next page)

Amateur License Test Questions (continued)

Answers are on page 27

General

G2B04

When selecting a CW transmitting frequency, what minimum separation from other stations should be used to minimize interference to stations on adjacent frequencies?

A. 5 Hz to 50 Hz
B. 150 Hz to 500 Hz
C. 1 kHz to 3 kHz
D. 3 kHz to 6 kHz

G4E10

Why should a series diode be connected between a solar panel and a storage battery that is being charged by the panel?

A. To prevent overload by regulating the charging voltage
B. To prevent discharge of the battery through the panel during times of low or no illumination
C. To limit the current flowing from the panel to a safe value
D. To prevent damage to the battery due to excessive voltage at high illumination levels

G3C11

Which ionospheric region is the most absorbent of signals below 10 MHz during daylight hours?

A. The F2 region
B. The F1 region
C. The E region
D. The D region

G3A04

Which of the following are the least reliable bands for long-distance communications during periods of low solar activity?

A. 80 meters and 160 meters
B. 60 meters and 40 meters
C. 30 meters and 20 meters
D. 15 meters, 12 meters, and 10 meters

(Continued on next page)
Back to Table of Contents

Amateur License Test Questions (continued)

Answers are on page 27

Amateur Extra

E6E08

How is power supplied to the most common type of MMIC?

A. Through a capacitor and RF choke connected to the amplifier input lead
B. MMICs require no operating bias
C. Through a resistor and/or RF choke connected to the amplifier output lead
D. Directly to the bias voltage (Vcc) lead

E1E01

For which types of out-of-pocket expenses do the Part 97 rules state that VEs and VECs may be reimbursed?

A. Preparing, processing, administering, and coordinating an examination for an amateur radio operator license
B. Teaching an amateur operator license examination preparation course
C. No expenses are authorized for reimbursement
D. Providing amateur operator license examination preparation training materials

E2A11

What type of antenna can be used to minimize the effects of spin modulation and Faraday rotation?

A. A linearly polarized antenna
B. A circularly polarized antenna
C. An isotropic antenna
D. A log-periodic dipole array

E5C06

What does the impedance 50 - j25 ohms represent?

A. 50 ohms resistance in series with 25 ohms inductive reactance
B. 50 ohms resistance in series with 25 ohms capacitive reactance
C. 25 ohms resistance in series with 50 ohms inductive reactance
D. 25 ohms resistance in series with 50 ohms capacitive reactance

Editorial Policy and Style Guidelines for *Full Quieting*

Editorial Policy

Full Quieting welcomes articles from BARC members on any ham radio subject that is relevant to BARC. Our focus is our BARC members. We will not reprint items or articles that are easily available by other means (web, magazines, etc.).

Most articles will be "how to" or "what I did" articles that focus on technical or operational subjects such as a construction (antennas, equipment, stations, etc.), the use of hardware or software, operating in unique/challenging circumstances, or a memoir.

Full Quieting will also consider an occasional article on policy issues regarding the various national licensing/regulatory agencies and/or amateur radio associations so long as the article is relevant to BARC members and constructive in tone and recommendations.

Although all *Full Quieting* articles represent the experiences and points-of-view of their authors and not BARC, articles that focus on policy issues will be specifically labeled as a reflection of the author's opinion.

Regardless of subject, when you submit an article you acknowledge that you are the original author or creator and you grant publication rights to BARC. Anything you submit remains your property and you may have it published elsewhere without the need for permission from *Full Quieting*.

Style Guidelines

Language: English is the official language of *Full Quieting* and all articles should be submitted in English. Don't be concerned if English is not your first language: just tell your story in your own voice and use translating tools such as Google Translate to help if necessary.

File format: Submit your article as a Word, Word Perfect, OpenOffice or text file attachment to an email. A shared document available for download (such as a Google Doc) is also okay. **Do not submit as an email or PDF file**.

Pictures and other graphics: Do not embed pictures or tables in the article. Please submit as an email attachment or a shared image available for download. Please reduce the file size of the images before you send them to *Full Quieting*. Large files can be attached to a series of emails. Keep file size in mind regarding publication quality: for example, a half page image in the final PDF version of *Full Quieting* should be at least 400 pixels wide. If a photograph or graphic was taken or created by someone else, you should have their permission to use it and the permission of anyone identifiable in the image**. If you capture images from the web, provide a citation (URL) for that source and make sure the source does not prohibit use of the image in *Full Quieting*.**

(Continued on next page)

Editorial Policy and Style Guidelines for *Full Quieting*

(Continued from previous page)

Use these style conventions

- We are hams, not Hams, and our hobby is ham radio This is a change to our original format
- The name of our organization is: Bellbrook Amateur Radio Club or BARC
- The code we use is Morse (capitalize the M)
- We use Yagi antennas (capitalize the Y)
- Q codes should be capitalized: QRM, QSB QSY
- The plural of QSO is QSOs, not QSO's
- Modes should be capitalized: CW, SSB, FT8, RTTY
- Bands are written as 10 m, 15 m etc.
- The abbreviation for a Silent Key is SK.
- You might have had an Elmer, not an elmer

Bruce N7RR has provided a two-page check list of common International System of Units (SI) formats and abbreviations.

Use these formatting conventions:

- Set all borders to 1 inch. The preferred font is Calibri, 12 point.
- Do not use tabs or spaces at the beginning of a paragraph
- Use only a single paragraph or carriage return at the end of each paragraph
- To enhance readability, use two spaces after the period at the end of a sentence.

Miscellaneous BARC Info

REGULARLY SCHEDULED NETS

Daily (Sunday through Saturday) 1030, 1615 and 1845 Ohio Single Sideband Net (OSSBN) Primary: 3972.5 KHz LSB Alternates: 3968 & 7272 KHz LSB

Weekdays (Mon-Fri) 1130 DMR Net Brandmeister Talk group 310557. Accessible via hotspot, 147.390 (+) CC13 TS2(Dayton East), 444.4375 (+) CC11 TS2 (Dayton West)

Sundays 1900 Newcomers & Elmers Net (Cincinnati) 146.670 (-) (123.0 PL)

Sundays 2000 **BARC Weekly Net 147.045 (+) (118.8 PL) [Alt 443.675 (+) (118.8 PL)]**

Sundays 2100 Miami Co. Voice & Data Net (Data Net follows Voice Net) 145.230 (-) (no PL)

Winlink Tuesdays GCARES Winlink Net Any time on Tuesdays Eastern Time Send To: W8LRJ, Cc: KE8FMJ W8GCA-10 445.010 (S), W6CDR-10 145.010 (S)

Tuesdays 1900 Dayton Veterans Admin Amateur Radio Club Net (W8DVA) 443.850 + 107.2 pl

Tuesdays 1915 Ohio ARES HF Net W8SGT Net Control at OEMA HQ Primary: 3902 KHz LSB (+/- QRM) Alternate: 7240 KHz LSB (+/- QRM)

Tuesdays 1945 Ohio Digital Emergency Net Primary: 3584.5 KHz USB (1500 WF) Alternate: 7072 KHz USB

Tuesdays 2000 MoCoARES Weekly Net 146.640 (-) (123.0 Hz PL) (Except—No Net on last Tuesday of even months (MoCoARES meeting) (Except—On 2nd Tuesday: Voice and Data Net on 444.250 (+) (123.0 PL)

Tuesdays 2100 GCARES Net (Voice & Data) 146.910 (-)(no PL) [Alt = 442.725]

Ohio Winlink Wednesdays OH ARES Winlink Net Any time on Wednesdays Eastern Time Send To: K8EAF, Cc: W8LRJ, KE8FMJ W8GCA-10 445.010 (S), W6CDR-10 145.010 (S)

Wednesdays 2000 Ohio District 3 ARES Net (West Central Ohio Regional Net) Primary: 145.110 (-) (67.0 PL) Alternate: 146.820 (-) (77.0 PL)

Wednesdays 2000 Beginners Net (Dayton Area) 444.875 (+) (94.8 PL)

ZOOM-Basic Setup & Configuration

Here's a link to the Zoom Video Tutorials: Zoom how-to video tutorials – Zoom Help Center

Also see: "Join a Meeting" and the "Joining & Configuring Audio & Video" tutorials for new users. Send questions or problems to John, W8LRJ ASAP but BEFORE the next meeting.

BARC Fundraising Opportunity — Kroger's Rewards Program Please use your Kroger Card when shopping at Kroger's and support BARC. If you haven't signed up and need help, bring your Kroger Card to the next BARC meeting, and we'll help you get registered (contact the BARC Treasurer).

ARRL Discounted Membership Offer One of the benefits of club membership is the opportunity to become an ARRL member at a discounted price. BARC is an ARRL affiliated club and receives a commission for new first-time ARRL memberships transacted through the club. BARC passes on this commission (discount) as a club membership benefit to promote ARRL membership. BARC members currently receive a $15 discount on a NEW first year ARRL membership cost when placed through the Club. Please contact the BARC Treasurer for details.