



Full Quieting

The Official Journal of The Bellbrook Amateur Radio Club



February 2024 — Issue 30

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From the President & Editor

February is here, one month closer to Spring! January was a great month for ham activities, we had Winter Field Day, the North American QSO Party, and an excellent Tech Night covering antenna measurements. Thanks to the many folks in BARC who set these all up, it's greatly appreciated! Also, thanks to the BARC members who attended, that's one of the main reasons we exist; to expose you to new skills and train you on how they're used.

I also gave a presentation on the new Raspberry Pi-5. If you peeked at the Table of Contents, you'll see the companion Pi-5 article is included in this issue.

If you know of anyone wanting to get their Technician amateur license, please get in touch with Paul Sharp and he'll forward your name to the folks in charge of the next training session, which I believe is tentatively set for mid-February. Watch your e-mail.

I'll be taking it easy the next few weeks. I don't know if you heard, but I had a medical emergency on the 23rd of January. I'm going great now, but I need to slow down for awhile until I fully heal. Please bear with me. One thing I'll pass along to you; if you're feeling way off normal, please don't hesitate to call 911; I think the fact that I called right away led to the outcome I had, and not something much worse. No guarantees, but that would improve your chances. We want to keep you around and a vibrant member of the club. Now, get in the air and talk to us!

73, Ray Hitt, N8VMX
 BARC President & *Full Quieting* Editor

Your views are important to BARC and to *Full Quieting*

Please make yourself heard at the club, via [email](#), and on the air...



2024 BARC Officers and Directors

President: Ray Hitt, [N8VMX](#)

Vice President: Jim Totten, [WA8HUB](#)

Secretary: Jim Gifford, [N8KET](#)

Treasurer: John Westerkamp, [W8LRJ](#)

Senior Director: Jim Lusk, [KC8EFD](#)

Junior Director: Bob French, [AC8ZU](#)

2023 Coordinators

Clubhouse: Jim Lusk, [KC8EFD](#)

Comm Center: John Westerkamp, [W8LRJ](#)

Contesting: Ken Gunton, [W8ASA](#)

Education: Paul Sharp, [WS8R](#)

Emergency Preparedness: Jim Lusk, [KC8EFD](#)

Field Day: Glenn Rodgers, [W8IO](#)

Full Quietening 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: Roger Hoffman, [WB9BXT](#)

Repeater: Russ Roysden, [N8NPT](#)

TechNight/Workbench: Trevor Clarke, [K8TRC](#)

Webmaster: John Westerkamp, [W8LRJ](#)

BARC Net: Every Sunday, 8 PM Local

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

Directions to BARC Clubhouse and Comm Center

Rooms 1 & 3 Lower Level Sugar creek Elementary School

51 S. East Street, Bellbrook (One block east & one block south from the traffic light in downtown Bellbrook)

Enter at South end of building

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?



What's Up BARC?

What's Up BARC?

Ray Hitt, [N8VMX](#)

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



Welcome New BARC Member!

Jerry Spray, K4SPR, Amateur Extra

New Callsign

Thomas Ewry, NA2S

Wednesday Tech Night a Huge Success!

What a successful relaunch of Tech Night; good attendance... and thanks to Bob French for starting these again.

Wednesday night's (Jan 24th) presentation and testing showed us:

- Some optional longer HT "gain antenna\$" barely outperformed the factory antenna.
- Surprised to discover that a new Amazon purchased \$9 dual band gain HT antenna outperformed the Diamond gain antenna tested against.
- Yaesu factory HT antennas were very close to performing as well as the longer aftermarket counterparts.
- Manufacturers are starting to print the antennas frequency bands on the antenna end; link below to pic... look around the SMA connector for the text:

<https://i.ebayimg.com/images/g/2WcAAOSwqxdcAZTF/s-l1200.webp>

- External quarter wave antennas that are cabled (coaxed) to your HT... really do need a ground plane to radiate well.
- Polarization REALLY MATTERS ! If you don't keep your HT straight while transmitting...the received signal level traveling to the other end is greatly reduced.

Tim N8NQH



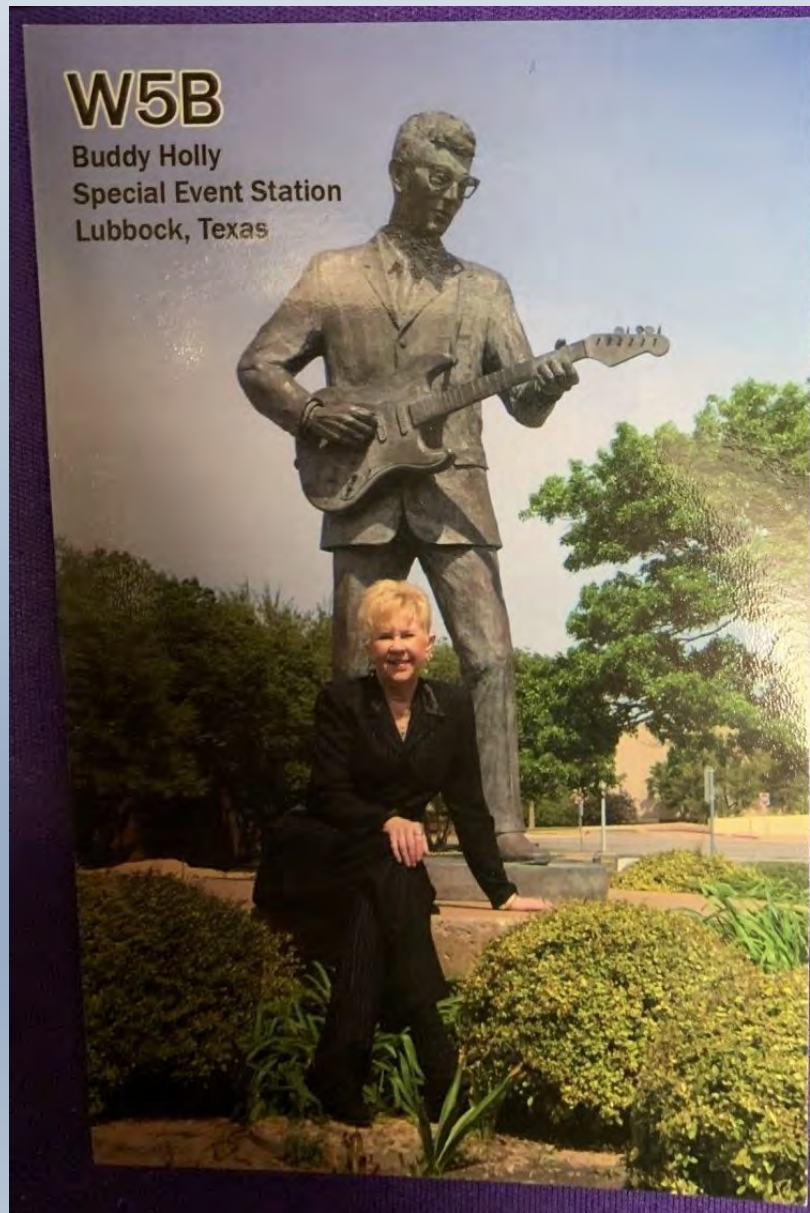
What's Up BARC? (continued)

Rockin' QSO Card!

How many of us old guys danced to the music of Buddy Holly and The Crickets' song "Peggy Sue"? Peggy was a real person who dated one of The Crickets. In her old age, she DJed for KDAV, an Oldies station.

She, along with Pricilla Presley are HAMS. Call letters W5B used for this special event station.

George Sucich KE8SNS



What's Up BARC? (continued)

Winter Field Day!

What's the difference between Field Day in June and Winter Field Day? Well, besides not having Dots' Chicken, there was about a 50-degree deficit. But the chili supplied by the Westerkamps and the Macons, plus all the donuts, cookies, cornbread, sandwiches, chips, and coffee certainly made up for the missing chicken, but we cannot be as enthusiastic about the temperature. However, the friendship and camaraderie helped fight any coldness and wetness. We had a good crowd (at least 20 folks) and had several new hams participating on the bands. Glenn Rodgers, Bob French, Jim Gifford, and Rob Desonia had HF radios working while John Westerkamp operated the 2m call-ins. Newer hams, Fred Stockwell, Victoria Ballweg, and Connie Gifford tried their hands at HF on 20m; while other new hams worked 2m. We "tried" to make contacts because at least on 20m there were no open frequencies to call CQ--it was that busy and crowded. It was wall-to-wall pileups. But we had fun trying. — Jim Gifford, N8KET {Editor: [Winter Field Day](#) is always the last full weekend in January.}



What's Up BARC? (continued)

Winter Field Day! (continued)



What's Up BARC? (continued)

Winter Field Day! (continued)



What's Up BARC? (continued)

1130 DMR Net—Monday through Friday 1130AM on DMR Talkgroup 310557

If you haven't joined us for the 1130 DMR Net, please give it a try!

The **1130 DMR Net** is a very informal net with rotating net control, currently it's been John W8LRJ, Ray N8VMX, Jim WA8HUB, but more are welcome to join in. The topic is DMR, amateur radio in general, what you've been up to, or whatever's on your mind. Nets usually run 30 minutes, but can go up to an hour if there's lively discussion. Unlike the other DMR nets where you check in and that's it, we go back around and give everyone the floor for as long as they like. This is a good way to make sure your DMR skills are up to par, your audio's OK, your hot spot isn't flaky, and so on. And it gives you a chance to get to know your amateur radio fellow travelers a little better. Please join us!



This talk group is accessible many ways; through your own DMR Wi-Fi hotspot, through Tim Procuniar, N8NQH's, East repeater in Bellbrook or West repeater near Carillon Park, or a local Brandmeister repeater near you ([see map](#)). Setting up your DMR radio to talk on this talk group is explained quite well on [Tim's website](#). If you need technical help, please contact [W8LRJ](#), [N8NQH](#), [KB8EMD](#) or [N8VMX](#) for assistance, we'd be glad to help.

Officer, Director, and Coordinator Inputs

Secretary: Jim Gifford, N8KET: As secretary, I took notes and minutes at planning and membership meetings. I also took photographs at the Ohio QSO Party and at the Winter Field Day. I wrote a short blurb on Winter Field Day.

Treasurer: John Westerkamp, W8LRJ: Over 70% of our membership has already renewed as we enter the New Year. Let's get to 100% by the end of February! There will be an auction in February so be sure to bring your wallet and get some great deals on some really good equipment. We continue to be in great financial shape.

It is that time again! Dues renewal begins in November every year. Yearly membership is \$15 (\$18 per family). You can send a check made out to BARC to the club P.O. Box 73, Bellbrook, OH 45305, or pay via PayPal by sending to w8lrj@arrl.net. When using PayPal, be sure to select for Friends and Family since BARC does not have to pay the PayPal fee. Thank you so much for your support!



Officer, Director, and Coordinator Inputs

Repeater: John Westerkamp, [W8LRJ](#): Unfortunately, it appears that the Spectrum Internet at the KAS repeater site has been removed. Without Internet access, we are unable to provide AllStar, EchoLink, or Wires-X services any more. The situation is not in our control, but we are considering alternate solutions.

A reminder that when using Allstar or Echolink, if the repeater is in constant use and unable to drop the carrier, a local user will not be able to send a *73 to disconnect and the connection will remain active forever! I have since taken steps to prevent this, but if it happens to you, please text me at 937-271-3119 and I can disconnect the node for you. You can also use the Contact Form on the website to reach me.

Website: John Westerkamp, [W8LRJ](#): Watch the website for Contest and DXpedition information and for more information on the various BARC Special Interest Groups. Lots of activities at BARC to keep you busy this winter as we start up the new year!

And don't forget about the Member Forum where you can ask questions and make announcements. The website has a new section *Mentors and Experts*! You can find a list of experts by selecting *Mentors and Experts* under the *Membership* tab. Send your questions via the *Contact* page for our *Experts*!

Communication Center: John Westerkamp, [W8LRJ](#): Things are quiet in the Communication Center for the winter in terms of construction and upgrades. We did work the North American QSO Party and made over 100 contacts for over 6000 points. We learned a good deal about listening and matching the caller's cadence. Even better, we gave the R9 another good test on several bands and it passed with flying colors. I also found a bad cable on Station #2 and replaced it so that station is working great now.

Other future plans including updating all the grounding and bonding to move the lightning arrestors outdoors, adding some ground rods, and bonding everything together with the electrical service ground. Stay tuned!

BARC Net: 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 2024 there were approximately 59 check-ins lasting 117 exciting and informative minutes. Topics ranges from Open Mike, Parks on the Air, your favorite outdoor sports, Winter Field Day, North American QSO Party, Tech Night and tell us about any exciting contacts you made. We often have non BARC members checking in to enjoy the Net.

Our faithful Net Controllers are, Larry Darner, KD8RER, Joe Menchaca KE8UUQ, Tink Siwecki KD8NUA, Paul Sharp WS8R, and John Westerkamp W8LRJ. Jim Dean, W8UD, is an alternate.



BARC February 2024 Event Calendar

Thu Feb 1, 2024

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

Sun Feb 4, 2024

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

Mon Feb 5, 2024

7pm Flex Users Group Where: BARC Clubhouse

Sun Feb 11, 2024

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

Tue Feb 13, 2024

11:15am Lunch Bunch..... Where: City Barbeque, 2001 E. Dorothy Ln, Kettering

Thu Feb 15, 2024

7pm Membership Meeting Where: BARC Clubhouse

Sun Feb 18, 2024

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

Thu Feb 22, 2024

7pm Dinner & Movie Night Where: BARC Clubhouse

Sun Feb 25, 2024

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

Tue Feb 27, 2024

11:15am Lunch Bunch..... Where: Marion's, 1320 N. Fairfield Rd, Beavercreek

Wed Feb 28, 2024

7pm Tech Night Where: BARC Clubhouse



BARC Movie and Dessert Night



The 2024 Season of our BARC Movie and Dessert Night had a great start with the fun light hearted film from 1987 **The Adventures in Baby Sitting**. Our movie for February is **Murder on the Orient Express** (2017). In April, for the **FIRST TIME EVER** at a BARC Movie Night we have a Double Feature: The Meg & The Meg 2. You can stay for one or both of these action packed films. I promise we won't have fish sticks! Our schedule is filling up fast so if you would like to recommend a movie we have three dates left!

Upcoming Dates for Our 2024 BARC Movie & Dessert Nights:

February 22, 2024	Murder on the Orient Express
March 28, 2024	Paul, Apostle of Christ
April 25, 2024	The Meg & The Meg 2
May 23, 2024	Mission Impossible: Dead Reckoning Part One
June 27, 2024	The Call of the Wild
July 25, 2024	Father Goose
August 22, 2024	
September 26, 2024	
October 24, 2024	



Past Movies & Desserts:

January 25, 2024	The Adventures in Baby Sitting
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All 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!

We'll see you in Febru-

ary at the Movies!

Tink/KD8NUA



Lunch Bunch

Jim Totten, [WA8HUB](#)

Hello my fellow lunch lovers. February 2024 is here. And time to renew our lunch meetings for this new year. 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. The restaurants are listed in the order most popular (at least for the first few) and with a balance variation. No two chicken restaurants in sequence. 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.

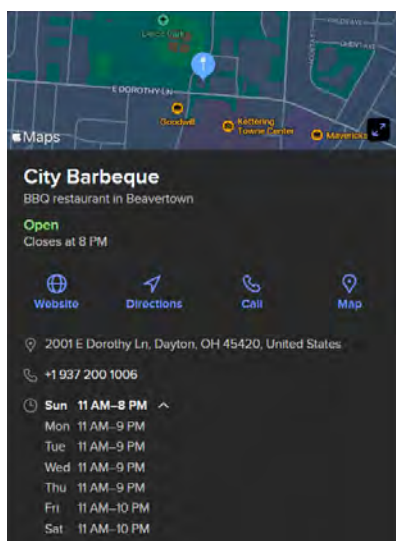
January 2024 had some surprises. Our first lunch on January 9th was the Chic-Fil-A in the Cornerstone Center. Location is at the intersection of Wilmington Ave. and Feedwire Rd. The second lunch was on January 23rd at the Culp's Cafe in Carillon Park. This was a first and the turn out was great. We had sign ups for 11 people. The final count was 9. The food was terrific.

February is going have some excellent eating. February 13 our lunch will be at the new City Barbeque in Kettering. Address is 2001 E. Dorothy Lane next to the entrance to Delco Park. On February 27 we will be dining at and old favorite: Marion's Piazza at 1320 N. Fairfield Road in Beavercreek. Good parking and lots of seating. Last time we were there I had a Rueben Sandwich instead of pizza. Excellent.

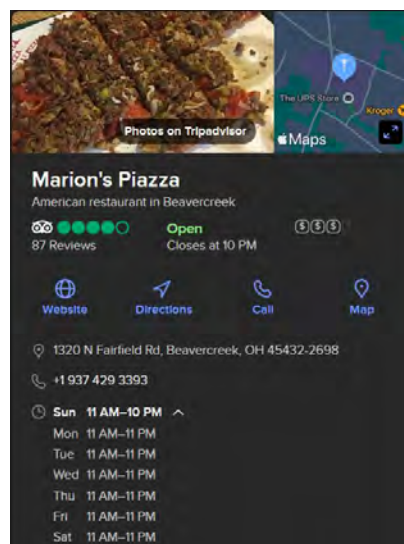
That's a wrap for this month. Happy eating.

73, Jim [WA8HUB](#)

Tuesday, February 13, 11:15am



Tuesday, January 23, 11:15am



Lunch Bunch 2023 List

Jim Totten, [WA8HUB](#)

Date	Restaurant	Address	City	Phone Number
7/25/23	Cherry House Cafe	1241 Meadowbridge Dr.	Beavercreek, OH 45434	(937) 320-6200
8/08/23	Another Broken Egg Cafe 7:00 am to 2:00 pm	2453 Esquire Dr.	Beavercreek, OH 45431	(937) 912-5074
8/22/23	China Garden Buffet	112 Woodman Dr. Airway Shopping Center	Dayton, OH 45431	(937) 781-9999
9/12/23	First Watch 7:00 am to 2:30 pm	5245 Cornerstone North Blvd	Sugarcreek Township, OH 45440	(937) 732-9013
9/26/23	Submarine House	3195 Dayton-Xenia Rd.	Beavercreek, OH 45434	(937) 429-8650
10/10/23	Roosters Wings	2430 N. Fairfield <i>The Shoppes at FC</i>	Beavercreek, OH 45431	(937) 702-9500
10/24/23	Golden Corral Buffet and Grill	2490 Commons Blvd.	Beavercreek, OH 45431	(937) 613-5478
11/14/23	Yaffa Grill Mediterranean Food	2844 Colonel Glenn Hwy	Fairborn, OH 45324	(937) 429-4959
01/09/24	Chic-Fil-A	5301 Cornerstone N Blvd,	Sugarcreek Township, OH 45440	(937) 439-1700
01/23/24	Culp's Cafeteria	1000 Carillon Blvd	Dayton, OH 45409	(937) 293-2841
02/13/24	City Barbecue	2001 E. Dorothy Lane	Kettering, OH 45420	(937) 200-1006
02/27/24	Marion's Piazza	1320 N Fairfield Rd.	Beavercreek, OH 45432	(937) 429-3393
03/12/24	Red Robin	2671 Fairfield Commons Blvd.	Beavercreek, OH 45431	(937) 320-9800
03/26/24	Beavercreek Pizza Dive	4021 Dayton-Xenia Rd.	Beavercreek, OH 45432	(937) 431-8669



North American QSO Party at BARC

John Westerkamp, [W8LRJ](#)

Wow! What a turnout for the North American QSO Party Contest last Saturday, our first BARC Operating Event of 2024. We had almost 20 members present and used all four radio stations for the contest. At least five attendees were new hams and several made their first HF contact! BARC members made over 100 contacts during the afternoon and scored over 6000 points.



This was our first Operating Afternoon of 2024 so, as always, we focus on education and training for new hams to encourage them to get on the air. There was a guided tour of the antenna patch panel and the rotator patch panel, as well as an explanation of each type of antenna and how we were using each band at each station.

Station #1 was our logging station and was also set up to work 40 meters. Station #2 was 20 meters and Station #3 was operating on 15 meters. That used up all of our antennas until Ken Gunton, W8ASA, suggested that we try to tune the 12 meter antenna for 10 meters. With that goal, we set up Station #4 for 10 meters and were able to tune the antenna! Although the results were not perfect, Ken and Geoff, KI5VNB, were able to make several 10 meter contacts in the Caribbean and beyond!

I especially want to thank our mentors who took time out from their Saturday afternoon to sit with and help our newest members and hams get on the air and have a great experience. Their willingness to help out is what makes BARC a great club! That and the leftover pie...

- Jim Gifford, N8KET
- Ken Gunton, W8ASA
- Geoffrey Kline, KI5VNB
- Glenn Rodgers, WI8O
- Paul Sharp, WS8R
- John Westerkamp, W8LRJ

73 de [W8LRJ](#)



North American QSO Party at BARC (continued)



Special Event Stations

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 many sites focused on SES.

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

https://www.qsl.net/va3rj/spevents_dx.html.

Here is my pick of the litter of SES that I think will be of interest to my fellow BARC members. Something for everyone! BARC has a few members who were / are in the US Military, for you history buffs, there many birthday celebrations for George Washington, a science experiment to melt ice in Minnesota, cancer awareness, and an opportunity to frees your keys. Such a deal, all for the price of yearly dues!

02/02/2024 | 101st Snowflake Ski Jumping Tourney, Feb 2-Feb 4, 1800Z-2100Z, K9S, Westby, WI. Vernon County ARC. 3.865 7.265 14.265. Certificate. Email snowflakejump@yahoo.com, to receive, e-certificate. snowflakejump@yahoo.com

02/08/2024 | 61st Anniversary of the YL System, Feb 8-Feb 11, 1323Z-1323Z, K4ICA, Veneta, OR. YLISSB. 14.240-14.340 7.230-7.260. QSL. John Ellis, W5PDW, 2623 Huffsmith Conroe Rd., Magnolia, TX 77354. www.ylssystem.org

02/10/2024 | 75th Anniversary of Merci Train Boxcar, Feb 10-Feb 29, 0000Z-0000Z, NV7AL, Las Vegas, NV. American Legion Paradise Post 149 and 40&8 Voiture 306. 7.074 7.250 14.074 14.250. QSL. Robert Bencsko, 2548 Fort Lauderdale Dr, Las Vegas, NV 89156. This special event station is set up to raise awareness of the 75th Anniversary of 40&8 "MERCY Train Boxcar" Please check out the QRZ page. The 24th and 25th may be operating on location of the Nevada boxcar in Boulder City, NV Watch for us on DX Sum

02/10/2024 | Commemorating the End of Operation Desert Storm (27FEB91), Feb 10, 1700Z-2359Z, NI6IW, San Diego, CA. USS Midway Museum Ship. 7.250 14.320; 14.070 PSK31; DSTAR on PAPA System repeaters. QSL. USS Midway Museum COMEDTRA, 910 N Harbor Drive, San Diego, CA 92101.

www.qrz.com/db/ni6iw .02/11/2024 | 10 Year Countdown to the 100th Anniversary of the Discovery of Pluto. Feb 11-Feb 19, 0000Z-2359Z, W7P and W7P/O, Flagstaff, AZ. Northern Arizona DX Association. 7.290 14.090 14.290 21.290. Certificate & QSL. W7P c/o NADXA, 6315 Townsend Winona Rd., Flagstaff, AZ 86004. www.nadxa.com 02/15/2024 | Childhood Cancer Awareness Day. Feb 15, 0000Z-2359Z, K2C, Brooklyn, NY. James Gallo. 21.375. QSL. James Gallo, 149 Marine Avenue, 6F, Brooklyn, NY 11209. <https://www.qrz.com/db/K2C>

02/17/2024 | 40th Anniversary for Mid State Amateur Radio Club. Feb 17-Feb 24, 0000Z-2100Z, W9MID, Franklin, IN. Mid State Amateur Radio Club. 14.265 7.227. QSL. Chris Frederick, 255 Hillendale Dr, Greenwood, IN 46142. <https://midstatehams.org>

02/17/2024 | HL Hunley Submarine special event station – N4HLH 2024. Feb 17, 1500Z-1900Z, N4HLH, Sullivans Island, SC. Trident Amateur Radio Club. 7.117(CW) 7.262 14.262 28.462 . QSL. N4HLH / Trident Amateur Radio Club, P.O. Box 60732, North Charleston, SC 29419. <https://>



Special Event Stations, (continued)

www.tridenthams.org/hl-hunley

02/17/2024 | Ice Station W0JH - Frozen Minnesota Lake Portable. Feb 17-Feb 19, 1600Z-2300Z, W0JH, Stillwater, MN. Stillwater (MN) Amateur Radio Association (SARA). 21.360 14.260 7.260 3.860. Certificate. Available by, email only, W0JHice@outlook.com, MN 55082. W0JH will operate portable from a frozen lake in Washington County, Minnesota (Grid Square EN34). In a meager attempt to drive away the remainder of Minnesota winter, the Stillwater Amateur Radio Association will be generating as much RF as possible over the President's Day long weekend. (Please help us!!) Certificates will ONLY be sent via email in PDF format. (Send requests with standard QSL confirmation info to: W0JHice@outlook.com). There is no need to send a QSL card. Info: W0JH at www.QRZ.com & www.Radioham.org www.Radioham.org

02/17/2024 | Washington's Birthday Celebration. Feb 17, 1500Z-2100Z, W0ARC, Washington, IA. Washington Area Amateur Radio Club, Inc. 7.071, 7.200 14.071, 14.275 21.074, 21.310 28.071, 28.350. QSL. Mark Lukins, AB0DX, 802 N 2nd Ave, Washington, IA 52353. Find us on 10, 15, 20, and 40M phone as well! Look for us on DX Summit. Send a SASE to us for a commemorative QSL card. We are located in Washington county, Washington township, City of Washington, on Washington street!! www.waarc.net

02/18/2024 | GEORGE WASHINGTON'S BIRTHDAY. Feb 18-Feb 19, 1500Z-2000Z, K4US, Alexandria, VA. Mount Vernon Amateur Radio Club (MVARC). 7.042 7.242 14.042 14.242. QSL. MVARC, P.O. Box 7234, Alexandria, VA 22307. mvarc.org

02/19/2024 | Dry Tortugas & The Florida Keys 2024. Feb 19-Feb 29, 0000Z-0000Z, N4T, Mount Joy, PA. Molly & Friends. 14.336; SSB, CW, FT8/FT4, and satellites. QSL. Molly Sauder, 1509 Pinkerton Rd, Mount Joy, PA 17552. Here's your chance for a rare grid as well as ARLHS, IOTA, POTA, USI and WLOTA. We plan to be on air using SSB, CW, FT8/FT4 and satellites. Spot via POTA & DX Summit. mollyandfriends6@gmail.com

02/21/2024 | GEORGE WASHINGTON'S BIRTHDAY. Feb 21-Feb 24, 0001Z-2359Z, WS7G, Monitor, WA. COLUMBIA BASIN DX CLUB. 14.322/14.255 7.222/7.260. Certificate & QSL. BRIAN NIELSON, 11650 Road 1 SE, Monitor, WA 98836. <https://cbn.homestead.com/ws7g.html>

02/22/2024 | Battleship Iowa's 81st Anniversary Celebration On the Air. Feb 22, 1600Z-2359Z, N16BB, San Pedro, CA. Battleship Iowa Amateur Radio Association. 40, 30, 20, 17, 15, 12, and 10 meters. QSL. See website, for QSL, information. w6hb@biara.org or www.biara.org

02/24/2024 | 20th Annual Freeze Your Keys winter operating event. Feb 24, 1400Z-2200Z, W0EBB, Leavenworth, KS. Kickapoo QRP ARC. 7.035 CW 7.240 SSB 14.058 CW 14.325 SSB. QSL. Gary Auchard - W0MNA, 34058 167th Street, Leavenworth, KS 66048. Please include SASE for a QSL card. w0mna74@gmail.com or www.qrz.com/db/W0EBB .



My First Beam Project

Bill Salyers, [AJ8B](#)

Since 1980 I have been chasing DX with various degrees of effort and varying degrees of success. I have had a variety of rigs including an HW-101, TS-530SP, IC-718, FT-950, and my current Flex-6400. I have used a variety of wire antennas when and where I could. The one constant companion has been my 6BTV vertical (Fig. 1). Over the years, I have added the 12m and 17m kits, the radial ground plate and the tilt-over base. I have been able to confirm 310 countries, WAZ, and 1,600 in the Challenge. All good totals for a modest station. However, to get to the next level, I knew I had to get some aluminum in the air.

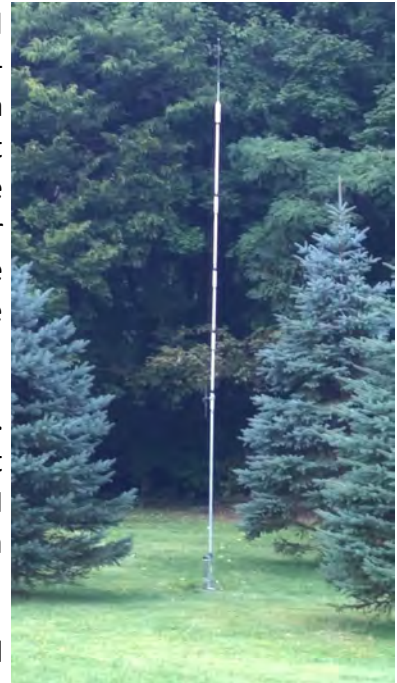


Figure 1: My 6BTV Vertical with the 17M kit installed.

If you know me, then you know my limitations. I am 6'9" and not slim. However, my big challenge is that I have had 4 hip replacements. That really limits my climbing, whether it is a ladder or a tower section. So, I had to find a solution that met my physical needs and would not force a housing refinance!

At the 2022 DX Dinner®, I happened upon a discussion between several hams. One had just put up a hex beam and the other two hams were telling him how much he would love it. They mentioned that although it was a 2-element beam for 6m through 20m, it was lightweight, easy to build and easy to get into the air. You will see my inexperience with such matters as this in the rest of the article. However, I am always looking to learn!



Figure 2: 32" x 6" I.D. PVC.

I checked around and after reading several of the reviews in QST¹, I settled on the K4KIO hexbeam². Since I had not built a beam and raised it before, I thought this experience would be something I could share, and a few others might benefit. So, here it is...

I was having chili with Joe, W8GEX, and Janet, W8CAA, and the topic turned to the hex beam. I mentioned that I was trying to determine the concrete needed to get the push up mast secured. It really didn't seem like it would be a lot, but it would be permanent. I had the perfect area in a clearing in my woods for just such a project. Joe told me about a way to secure the pole that I had not heard of.

Sink a 32" piece of 6" I.D. PVC in the ground (Fig. 2, Fig. 3). Pack the space around the outside of the PVC with pea gravel. (Fig. 4) Use a 4x4 as the "tower" portion of the assembly. The 8'



My First Beam Project (continued)



Figure 3: My grandson digging the hole. Lucky Me!!!

long 4x4 will go into the PVC, allowing over 5 feet of 4x4 to mount to. Once you put the 4x4 into the PVC, use more pea gravel around the 4x4 to really pack it down. I used a broom handle as a “tamp.” Always keep an eye to make sure the 4x4 is plum. Once this is done and you have it packed, that 4x4 isn’t going anywhere!

An added bonus is that if you need to take it down, a wet/dry shop vac can be used to remove the pea gravel allowing you to lift the 4x4 out!



Figure 4: Finished Mount.



Figure 5: 4x4, rotor, and thrust bearing on “tower” portion. Looks crooked, doesn’t it?

Building the Hex Beam:

Carefully unpack the hex beam components. I received 2 boxes from K4KIO, excellent instructions, and clearly marked components. However, I missed one of the bags that contained about 1/3 of the mounting hardware. I contacted K4KIO and ordered what I needed. They overnighted it to me. A few days later, I found the missing bag. I sent it back to K4KIO. Not only did they give me full credit, but they paid for shipping both ways and then followed up!



Figure 6: The spreaders laid out for painting.



My First Beam Project (continued)

I painted the spreaders to protect the fiberglass from UV deterioration. Rust-oleum proved to be quite effective.



Figure 7: Mast plate and feed point in place—ready for spreaders

Figure 7 shows the mast plate and the feed point together ready for the spreaders. The next several pictures show the steps in putting it together.

Figure 8 shows the spreaders together and mounted to the mast plate. The spreaders each have 3 sections that slide into each other. Once the spreaders are pulled up and held in place, they are quite mechanically sound.



Figure 8



Figure 9

Figure 9 shows the assembled antenna at the “antenna farm”, ready to install. There was one spreader in the original box that had the wire holding clamps in place and that was used as a template for the rest. I did some minor physical adjustments of the wire tension.

I performed some SWR plots for each band to make sure there was nothing wrong. All checked out OK.

I was now feeling the pressure to finish for two reasons. First, I only had to install the rotor, the thrust bearing, the guy wires and the push-up mast to be on the air. Secondly, it is 2 weeks until CQWW CW and 2 days before a major cold front is due with wind and rain. So, I was up and out early on that Saturday!



My First Beam Project (continued)

Figure 10 shows the Yaesu 450G rotor mounted to a steel plate using “L”-channel hardware used in garage door systems. I used 1/8” 9” x 12” steel plate⁸ to hold the thrust bearing and the rotator. Figure 11 shows the thrust bearing installed.



Figure 10



Figure 11

I dropped the pushup mast³ through the thrust bearing⁴ and into the rotator⁵. I used a 1/4” piece of wood as a spacer between the bottom of the mast and the rotator housing. This allows the thrust bearing to hold all the weight. I dropped the guy wire Ring Kit⁶ over the mast between the top and middle sections. We (my son Patrick and I) secured the thrust bearing and then the rotator.

Once this was done, I attached the guy ropes to the Guy Ring. You must be careful not to get your feet tangled up in the ropes, the coax, and the rotator cable! I was able to lift the hex beam assembly up to Patrick and he was able to drop the antenna mast pipe into the push up mast. We secured it with two 2.5” stainless steel bolts. Patrick then pushed up each section and I secured it. Finally, we secured the guy ropes to the guy anchors, and we were ready to go!

The SWR charts are below. It has really performed well. The rotator interfaced beautifully with my DX Suite^{7,9} logging program. Now I need to remember that this does work differently than a vertical!



If you have any questions, just drop me a line and we can set up a sked. I bet I can work you now!



My First Beam Project (continued)

References

¹ QST August 2017

² [KIO Technology \(k4kio.com\)](http://k4kio.com)

³ [WiMo Antennen und Elektronik 18305-5 WiMo Aluminum Telescoping Masts | DX Engineering](#)

⁴ [Yaesu GS-065 Yaesu Rotator Mast Bearings | DX Engineering](#)

⁵ [Yaesu G-450ADC Yaesu G-450ADC Medium-Duty Rotator Systems | DX Engineering](#)

⁶ [WiMo Antennen und Elektronik 23050 WiMo 23050 Metal Guy Ring Kits | DX Engineering](#)

⁷ [DXLab \(dxlabsuite.com\)](http://dxlabsuite.com)

⁸ [Amazon.com: 1/8" x 9" x 12" Steel Plate, A36, Hot Rolled, 1/8" Thick : Industrial & Scientific](#)

⁹ [MDS-HAM Amateur Radio Products](#)



Answers to Amateur License Test Questions (from page 29)

Technician	General	Amateur Extra
T5C02 (A)	G1A10 (D) [97.205(b)]	E1C04 (A)
T7A01 (B)	G4D03 (D)	E2C04 (B)
T9A09 (C)	G4E08 (A)	E2C10 (D)
T9B09 (B)	G9C03 (A)	E5A07 (A)



First Look at the Raspberry Pi-5

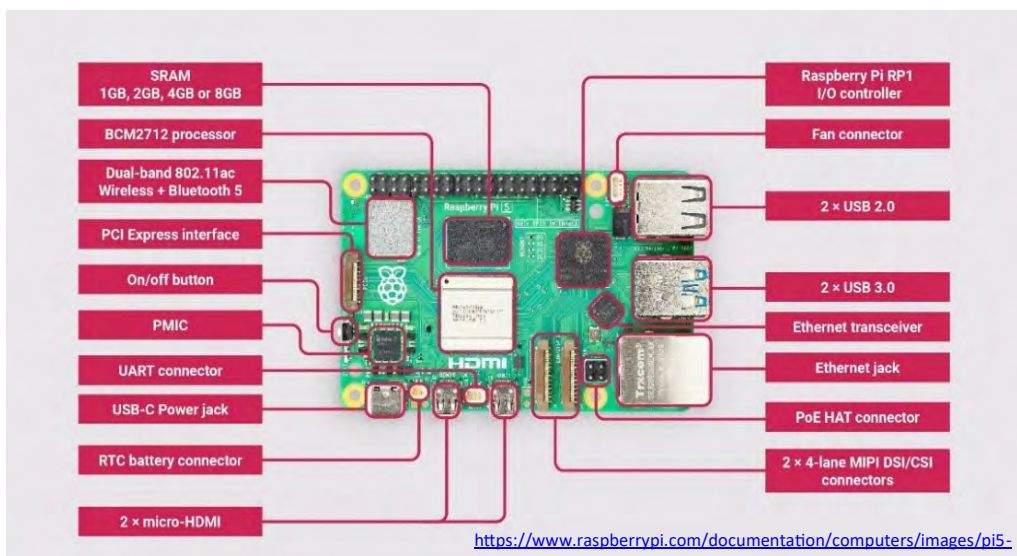
Ray Hitt, [N8VMX](#)

Most of you regular readers know that I use Raspberry Pi for many things around my QTH. I use them for networking time-keeping; as a part of my HF station running GridTracker, WSJT-X, Hamclock; and in several hotspots. I started out with the original Raspberry Pi, then the Pi-2, Pi-3, Pi-4, Pi-Zero, and as of December 2023, the Raspberry Pi-5. I wanted to document my initial impressions of the Raspberry Pi-5 and share them with you if you're thinking about getting one.



The newest Pi in the lineup, the Raspberry Pi-5, was announced in late Sep 2023, and first offered for sale in Oct 2023. I immediately pre-ordered one from Newark Electronics ([8 Gbyte](#)) and it arrived around my birthday in early December (happy birthday to me!). The preorder wait time can be as little as one day or as much as two months, so keep checking the link above. If you're planning on upgrading to a Pi-5 for next spring/summer optimum POTA season, factor this delay into your planning.

Specifications: The Pi-5 is up to 3 times faster than the Pi-4, and while the same dimensions as the previous Pi boards, it has a new layout (see picture below). The quad-core ARM 64-bit processor is clocked at 2400 MHz (some have overclocked as high as 3000 MHz). There is a custom Raspberry Pi – developed IO chip (RP1) that improves throughput to the USB 2.0 and USB 3.0 ports, GPIO and CSI/DSI ports. This fixes an Ethernet bottleneck seen in earlier Raspberry Pis (especially Pi 2,3). It also contains an on-board fan connector that enables intelligent fan operation – it's off until the board reaches 50° C, then slowly ramps up in speed until it hits max speed at 80° C. This allows for whisper-quiet operation. There's a real-time clock on board that preserves time when the board is powered down (required battery not included). For the first time, there's a power on-off button on the board (accessible even when encased), that allows for soft shutdown, hard shutdown, and powerup. For more specs, check out this [link](#), or download MagPi [Issue 134](#).



First Look at the Raspberry Pi-5 (continued)

The case is different: Due to the new board layout, the Raspberry Pi-5 needs a new case. For one thing, the Ethernet and USB 2/3 ports are swapped in position. There are also electrical differences in the fan due to the thermal control that wasn't present (at least not as elegantly as the Pi-5) in earlier models. Cases are already available from the usual sources. Raspberry Pi itself has a case and an active cooler that combines a large heat sink with a fan assembly that will allow it to run at full speed without hitting the 80° C mark where CPU throttling kicks in.

It uses more power: All this performance improvement comes at the price of increased power consumption. The Raspberry Pi-5 follows the USB-C PD (power delivery) spec that allows for negotiated voltage and current between source (power supply) and sink (Raspberry Pi-5). Raspberry Pi designers chose to negotiate a fixed 5V, 5A spec to supply the board. The bad news is that no existing off-the-shelf 12V USB-C power adapters can provide 5V at 5A. The Pi-5 operate in a lower power mode by limiting current to the USB ports. The only currently known power adapter that can supply power to this board is available from Raspberry Pi (but it is a fully capable 27W USB PD power supply that can also charge cell phones and will run the Pi-4 as well.

I am testing a 12V to 5V at 6A buck converter that can plug into your 12-36V POTA battery with a Powerpole and a USB connector capable of driving the Pi-5 at 5A. I need to test what level of RF noise this device will generate in the amateur radio band. More to follow. I did manage to run a Raspberry Pi-5 all weekend on a normal USB-C PD adapter that's part of my 12V-powered ham station.



With this adapter, the Pi-5 operated at a reduced current to the USB ports, which didn't impact me because I am also using a 12V-powered USB hub that takes the current load off the Pi-5 USB ports. The Pi-5 idles at around 1-1.5A, climbing towards 3A at 50% CPU loading. I ran at 100% loading for a while until the machine heated up to 80° C and throttled. I did notice that of my four USB-C power adapters, two had slightly lower voltage, causing the proverbial 'lightning bolt' on the screen indicating a voltage problem. Two of my adapters were fine. I did purchase the Raspberry Pi power supply that needs 120V, but it puts out 5.1V (not 5.0), which helps the undervoltage problem. Bottom line, if you are concerned about under-voltage affecting your Pi-5 under your use cases, I recommend getting the approved Raspberry Pi power supply, or run your Pi-5 with a buck converter that has been tested and shown to put out at least 5.1 Volts at 5 Amps. While you're at it, the USB-A to USB-C cable to get from the buck converter must be as short as possible and the lowest wire gauge available. I have reference links at the end of this article of cables known to work with the Pi-5.

Case Fan Integration: A welcome feature seen for the first time in the Pi-5 is an on-board fan connection. This 4-pin fan connector has 5V, ground, tach, and PWM (pulse width modulation) connections. This allows the Pi-5 to precisely control the case fan. Previous case fans for earlier Raspberry Pis connected to 5V and ground only, running constantly run at full speed. They would occasionally get quite noisy, especially when they started to wear out. The Pi-5 fan will stay off entirely until the CPU core temperature hits 50° C, then run slowly until the temperature hits 60° C, where it triggers a faster speed. The speed continually increases as the temperature hits 80° C, where processor clock



First Look at the Raspberry Pi-5 (continued)

throttling will occur to avoid CPU damage. In my experimentation, most of the time the CPU would hover at 60° C, and only hit 80° C when I was intentionally running the stress program (see below) that runs all 4 cores at 100% for 2 minutes.

```
hittra@pi-5 ~ $ stress -v -c 4 -t 120
```

New Debian 12 Bookworm: Every couple of years, Debian issues a new release. Last October, they released Debian 12, aka “Bookworm” (the Debian releases are all named after Toy Story characters). Debian 12 is required for the Pi-5, but optional for the Pi-4 and not yet available for the older Pis. It has some new features, and with new features come great and sometimes painful learning experiences for users and software developers, nothing new here. Here’s a [link to a full description of Bookworm on the Pi](#), but I’ll try to capture some high points:

- **Wayland** – Debian 12 contains [Wayland](#) which I will try to describe as a non-computer expert. Wayland is the software that comes into play when you use the GUI (graphical user interface) as opposed to the command line interface. Almost all of you use the GUI, not command line. Wayland draws the windows on your screen containing running software programs. They can be moved around the screen, minimized, and so on. Previously, software called X11 performed the function Wayland is performing. X11 has been around for a long time and is not optimal for today’s computers. Wayland is written to replace X11, but in the process, all software needs to be inspected to ensure it will work in Wayland (and X11 for older versions of software). Over time, all software will work with Wayland because it is replacing X11 across the board.
- **PipeWire** – This replaces PulseAudio for sound control. Those of you who use digital modes on a Pi already have done battle with PulseAudio to get your sound card output sent to the radio, hopefully PipeWire makes it easier to map your sound cards. It improves Bluetooth device connectivity too.
- **Networking** – Catching up with Ubuntu, Raspberry Pi is using Network Manager to handle all networking (Ethernet, WiFi, VPNs, etc.) This means that some of the old ways of setting up WiFi are changed. Information I shared ([Jan 2024 Full Quietening, Page 21](#)) about editing *wpa_supplicant* in the */etc/wpa_supplicant* directory are obsolete in Debian 12. Since I am still learning Network Manager myself, I am not able to explain the changes currently. Just be aware.
- **Firefox** – There’s the ability to install Firefox along with Chromium as the default browser. While FireFox was available before, it was not fully supported. Now, it will get automatic updates and includes optimizations for the Raspberry Pi to improve streaming video while decreasing processor loading.

Choosing 32-bit or 64-bit OS: When setting up a new Raspberry Pi, the easiest way by far is to use the Raspberry Pi Imager to set up your microSD card or SSD USB stick. When running Imager, you can filter the available operating system images to those compatible with your Pi. When you select Pi-5, you get a choice of 32 or 64-bit Debian Bookworm. Initially, only 32-bit amateur radio apps were working properly in the 64-bit version. However, within a couple of weeks of testing, both 32 and 64-



First Look at the Raspberry Pi-5 (continued)

bit apps were working properly. The 64-bit version is recommended by Raspberry Pi Foundation for the Raspberry Pi-5, although you can opt for 32-bit as well. With an appropriate SSD disk as a boot device (in lieu of the microSD typically used), the whole bootup takes less than 20 seconds or less until you're at the desktop.

Compatibility of Ham apps: I routinely use the following ham apps on Raspberry Pi: *Hamclock*, *FIRig*, *FIDigi* (not very often), *wsjtx*, *GridTracker*, and *gqrX*. I'll talk about the compatibility of each of them.

Hamclock: This program needs to be compiled to run from source code. The commands below, when typed into a bash script file, will automatically compile Hamclock in two sizes (800x600) and (1600x960), and move them into the program file location */usr/local/bin*. I run this script whenever Hamclock informs me there's a new version. This script deletes the old files (if any) before downloading the new ones.

I have been able to compile and run Hamclock on both 32-bit and 64-bit versions of Debian 12 (Bookworm). No issues whatsoever.

```
#!/bin/bash
cd /$HOME/Downloads
pwd
sudo rm -r ./ESPHamClock
sudo rm -r ./_ESPHamClock
rm ESPHamClock.tgz
wget http://www.clarksyinstigate.com/ham/HamClock/ESPHamClock.tgz
tar -xvzf ./ESPHamClock.tgz
cd ESPHamClock
make hamclock
sudo mv hamclock /usr/local/bin
make hamclock-big
sudo mv hamclock-big /usr/local/bin
```

FIRig: FIRig is available to install directly from the Bookworm repository by typing this command:

sudo apt install firig. FIRig installed and ran fine in both 32 and 64-bit versions of Debian 12 (Bookworm). However, I noticed that FIRig won't see the radio comm port anymore when you install *gpsd*. See section on *gpsd* below for fix.

FIDigi: FIDigi is available to install directly from the Bookworm repository by typing this command: *sudo apt install fldigi*. FIDigi installed and ran fine in both 32 and 64-bit versions of Debian 12 (Bookworm)

WSJT-X: WSJT-X is available to install directly from the Bookworm repository by typing this command: *sudo apt install wsjtx*. WSJT-X installed fine in both 32 and 64-bit versions of Debian 12 (Bookworm). Due to an incompatibility with the Wayland compositor, the title bar is missing from *wsjtx*'s main window, so it's hard to move the window around on the screen unless you use the *.* The current workaround until there is a software update is to start *wsjtx* with a modified command line:

wsjtx -platform xcb

The easiest way to do this is to set up a desktop shortcut and edit the "Desktop Entry" tab, Command entry and put this modified command string in there. Once this change is made, WSJT-X works completely normally.



First Look at the Raspberry Pi-5 (continued)

- **GridTracker:** As of now, GridTracker is not compatible with Wayland. If you really need GridTracker now and can't wait for the software update, you can revert your Raspberry Pi to using X11 instead of Wayland. To do this, type `sudo raspi-config` and navigate to **6 Advanced Options** -> **Wayland** -> **W1 X11 to switch to X11**, then reboot. The last information I had was that the GridTracker development team was awaiting their Raspberry Pi-5 to build and test the necessary changes. They're caught up in supply chain madness like you and I are.
- **Gqrx-SDR:** [Gqrx-SDR](#) is available to install directly from the Bookworm repository by typing this command: `sudo apt install gqrx-sdr`. Gqrx installed and ran fine in both 32 and 64-bit versions of Debian 12 (Bookworm). Note that you may have to install additional SDR libraries matching your SDR. In my case, I needed to install `rtl-sdr` and `airspyhf` for the two SDRs I use.
- **Gpsd:** Gpsd is the daemon (driver set) that allows use of a GPS, usually through the USB port. It sends GPS inputs into the NTP time server if you want GPS-aided timing. Gpsd installs fine, but is not configured correctly by default if you are also using FIRig. Refer to my [October 2022 Full Quieting](#) article on page 22 for instructions on editing `/etc/default/gpsd` for use of a USB GPS. What happens is that when `gpsd` starts up, by default it scans all the ports for a GPS, in the process wiping out the FIRig connection to your radio. My edits force `gpsd` to look at a one comm port and leave the others alone. By the way, also install `gpsd-clients` and `gpsd-tools` to get all the gps-monitoring goodies you need to tell if you are hearing the satellites and have a gps lock.

Changes in the NTP Time Server: Pi-5 doesn't automatically come with `ntp` preinstalled, most users don't need it. It comes into play, along with `gpsd`, if you want to use a GPS in a POTA environment without access to the Internet for timekeeping. In Debian 12, they have replaced `ntp` with `ntpsec` and moved the `ntp.conf` configuration file from `/etc/ntp.conf` to `/etc/ntpsec/ntp.conf`, however the contents are kept the same. Install by typing `sudo apt install ntp`.

Also, if you turn on logging {*logging is discussed in my [November 2022 Full Quieting](#) article on page 10*}, this data has been moved from `/etc/ntpsec/ntp.conf` to `/etc/ntpsec/ntp.d/ntpviz.conf`. It can be enabled and disabled from there.

NTP Configuration file ntp.conf modified by DHCPClient: In a related topic to the other changes in the `ntp` server I just mentioned, I noticed that whenever I am connected to my home Wi-Fi or directly direct-connected via Ethernet, the `ntp` would use only my router, ex. 192.168.1.1 for me. This prevented me from testing my GPS setup at home. I found a solution that involved editing the `ntpsec` file in the `/etc/default` folder. Edit the line to read "`IGNORE_DHCP=yes`". This prevents the router from being a timekeeping source, allowing you to specify your preferred time sources. In my case, I refer to my Raspberry Pi-2 NTP Stratum 1 Server at 192.168.1.42, my USB GPS at 127.127.22.0, and some pool servers at `debian.pool.ntp.org` for when I'm on the Internet.

Implications for Amateur Radio applications: The Pi-5 represents a significant improvement in capability over the earlier Pi models. The question is: do you always need that much horsepower? In general, no. I have run `FIRig`, `wsjtx` and `GridTracker` at the same time on a Raspberry Pi-4. It does lack screen smoothness compared to a Pi-5. If you run `gqrx`, I would recommend getting a Pi-5; the improvement is truly remarkable.



First Look at the Raspberry Pi-5 (continued)

If you're curious about the Pi-5 for POTA, it may be overkill. The primary consideration for POTA is minimal power consumption for the functions you need, i.e. wsjtx if you're running FT-8. A Pi-4 can do this already, so if you have one, go ahead and use it. An alternative would be to *underclock* the Pi-5 to reduce power consumption, but then the performance improvement over a Pi-4 is reduced also.

Using a Pi-5 for your home QTH setup makes good sense to me. Power consumption is less of a factor, plus this opens the door for you to try other amateur radio apps and programming in general. If you want to do software development, the Pi-5 is strong enough to compare to some laptops and would allow you to compile software on the spot. Hook up a decent monitor, keyboard and mouse, and you can do word processing, watch YouTube and surf the Internet too.

I use my Pi-5 to do FT-8, run Hamclock, listen to 80m voice with gqrx on Bluetooth headphones, all at once, no problem. You can run it off the recommended Raspberry Pi 27W power supply or a 5V, 5A buck converter if you have a 12VDC system like I do.

So, I leave the Pi-5 in my shack, the Pi-4 is already in a go box with the same programming to head out to a POTA event. The best of both worlds.

I didn't even talk about DMR/DSTAR/YSF hotspots yet. While some commercially available hotspots use Pi-4s, I've never had a problem using a Pi-3 or even a Pi-Zero 2W. They are a lot cheaper and use much less power. A Pi-5 would be a waste of money for a hotspot even though it would work well.

Conclusions: If you can afford \$80 for a Pi-5 8Gbyte SBC, go for it. If you place a preorder now, you'll get one right around the start of Spring if not sooner. Bear in mind that your older Pi-4s, Pi-3s and others are still useful and should be kept for less demanding applications and for power conservation considerations. If you get hung up with some software working properly on a Pi-5, do a couple Google (or Duck Duck Go!) searches to see what problems others are running into. Or reach out to me or the other Raspberry Pi/Linux hobbyists in BARC. Chances are, someone has already found and solved the problem you have. That's worked for me many times already. Good Luck, and Enjoy!

73, Ray, [N8VMX](#)

Details of Raspberry Pi-5 in Oct 2023 MagPi, Issue 134 (also look at Issues 134 and 135)

<https://magpi.raspberrypi.com/downloads/eyJfcmFpbHMiOnsiZGF0YSI6ODY3OCwicHVlIjoieYmxvYl9pZCJ9fQ==--3f75f12319350358a785cc15eaf9b15fe407b73c/MagPi134.pdf>

Buck Converter: <https://www.amazon.com/dp/B01NALDSJO>

6-inch USB-A to USB-C cable: <https://www.amazon.com/dp/B01CZVEUIE>

3-foot USB-A to USB-C cable: <https://www.amazon.com/dp/B07213D35X>

Raspberry Pi (all types) <https://www.newark.com/buy-raspberry-pi>



Amateur License Test Questions

In honor of our Amateur Radio Training classes, here are some questions pulled from the Technician, General, and Extra question pools. Try to answer them and see how you did. **Answers are on [page 22](#).**

Technician

T7A01 (B)

Which term describes the ability of a receiver to detect the presence of a signal?

- A. Linearity
- B. Sensitivity
- C. Selectivity
- D. Total Harmonic Distortion

T9B09 (B)

What can cause erratic changes in SWR?

- A. Local thunderstorm
- B. Loose connection in the antenna or feed line
- C. Over-modulation
- D. Overload from a strong local station

T5C02 (A)

What is the unit of capacitance?

- A. The farad
- B. The ohm
- C. The volt
- D. The henry

T9A09 (C)

What is the approximate length, in inches, of a half-wavelength 6 meter dipole antenna?

- A. 6
- B. 50
- C. 112
- D. 236



Amateur License Test Questions (continued)

General

G4D03 (D)

What is the effect of an incorrectly adjusted speech processor?

- A. Distorted speech
- B. Excess intermodulation products
- C. Excessive background noise
- D. All these choices are correct

G4E08 (A)

In what configuration are the individual cells in a solar panel connected together?

- A. Series-parallel
- B. Shunt
- C. Bypass
- D. Full-wave bridge

G9C03 (A)

How do the lengths of a three-element Yagi reflector and director compare to that of the driven element?

- A. The reflector is longer, and the director is shorter
- B. The reflector is shorter, and the director is longer
- C. They are all the same length
- D. Relative length depends on the frequency of operation

G1A10 (D) [97.205(b)]

What portion of the 10-meter band is available for repeater use?

- A. The entire band
- B. The portion between 28.1 MHz and 28.2 MHz
- C. The portion between 28.3 MHz and 28.5 MHz
- D. The portion above 29.5 MHz



Amateur License Test Questions (continued)

Amateur Extra

E5A07 (A)

What is the magnitude of the current at the input of a parallel RLC circuit at resonance?

- A. Minimum
- B. Maximum
- C. R/L
- D. L/R

E2C04 (B)

Which of the following frequencies are sometimes used for amateur radio mesh networks?

- A. HF frequencies where digital communications are permitted
- B. Frequencies shared with various unlicensed wireless data services
- C. Cable TV channels 41 through 43
- D. The 60 meter band channel centered on 5373 kHz

E1C04 (A)

What is meant by IARP?

- A. An international amateur radio permit that allows U.S. amateurs to operate in certain countries of the Americas
- B. The internal amateur radio practices policy of the FCC
- C. An indication of increased antenna reflected power
- D. A forecast of intermittent aurora radio propagation

E2C10 (D)

Why might a DX station state that they are listening on another frequency?

- A. Because the DX station may be transmitting on a frequency that is prohibited to some responding stations
- B. To separate the calling stations from the DX station
- C. To improve operating efficiency by reducing interference
- D. All these choices are correct



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*.**



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.



Misc 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, 444.875 (+) 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 2030 Greene County DMR Net Primary: 444.875+, Color Code 13

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.

