

Full Quieting

The Official Journal of The Bellbrook Amateur Radio Club



March 2024 — Issue 31

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From the President & Editor

Greetings,

Hopefully you're ready for spring like I am! This winter wasn't too bad (so far). Now it's time to get ahead of the crabgrass and all those outdoor prep activities. And more opportunities for POTA!

I wanted you all to think about some of the things we will be launching in the next few weeks, and help out wherever you can. We could always use more help. Field Day planning, Special Event Station planning, manning our Flea Market tent for awhile at Hamvention, the upcoming Sugar Maple Parade, and more. I'd like to see more of you try these things out, who knows, you might like it. I enjoy seeing you all when we get together, you probably do too.

Also take a look at Page 2 in the Newsletter. Each and every Newsletter has a description of *Member Interviews*. I haven't published one for quite a while, but I would love to know about you all, and the member interview is a great way to do it. Don't worry about your spelling or grammar, I can clean all that up. Look at [past Newsletters](#) for ideas. The main thing is to share a little about yourself and see if you have some things in common with all of us BARC members. Chances are you do.

In this issue, we have information on the upcoming Solar Eclipse on April 8th, using Node-Red to remotely control your ham shack, hooking up a Raspberry Pi to your Xiegu G90, and some historical odds and ends you will find interesting. So dig in and enjoy!

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 Members!

Ken Moak, **KM8AM**, Amateur Extra
Richard Reese, **WA4PLL**, Amateur Extra
Karen Yeagley, **N8CXS**, General

District 3 Information on Upcoming Solar Eclipse

I've set up a page on the Ohio District 3 ARES website regarding the 8 April Eclipse here in Ohio.

On that I'll be posting information about amateur radio support to local authorities, as well as links to general eclipse information and resources.

It can be found on the main page or accessed directly at:

<https://ohd3ares.org/wp/?p=7274>

It's focused on District 3 as a whole, but I will link to County or local level information as it becomes available and is appropriate.

Let me know if you have any questions.

Randy KA0AZS

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

Treasurer: John Westerkamp, [W8LRJ](#): The auction was a huge success! The club took in over \$800 in just one evening. We cannot thank our generous club members enough. Special thanks again to Ken Gunton, W8ASA, and Stu Holzer, K8ST, for organizing and testing all the equipment and for running the auction and tracking sales. Including previous sales, we were able to raise \$745 for the widow of WBOSCD selling his equipment.

As we close our membership drive for 2024, we now have 134 paid members. Watch for the 2024 Membership Directory in the coming days. We continue to be in great financial shape.

Repeater: John Westerkamp, [W8LRJ](#): After visiting the KAS repeater site, I was able to resolve an issue with our Internet connection so we now have outgoing Internet capability. This restored some of our services. Unfortunately, without access to the new router, I can't forward ports we need for incoming Internet connections for EchoLink, AllStar, or Wires-X so those services remain unavailable. 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 spring as we start up the new year! Parks on the Air should start up again with the warmer weather and don't forget the Rookie Roundup in April.

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](#): There appears to be a problem with the bandpass filter on Station #2 that I am looking into. Tech Night is back up and popular. We also plan to hold a class on using your HT including basics of VFO vs. Memory mode, programming from the keyboard, simplex modes, and programming with a PC. Watch your email for more information.

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 March 2024 Event Calendar

Sun Mar 3, 2024

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

Mon Mar 4, 2024

7pm Flex Users Group Where: BARC Clubhouse

Tue Mar 5, 2024

6:30pm POTA SIG Where: BARC Clubhouse

Thu Mar 7, 2024

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

Sun Mar 10, 2024

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

Tue Mar 12, 2024

11:15am Lunch Bunch Where:

Sun Mar 17, 2024

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

Thu Mar 21, 2024

7pm Membership Meeting Where: BARC Clubhouse

Sun Mar 24, 2024

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

Tue Mar 26, 2024

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

Wed Mar 27, 2024

7pm Tech Night Where: BARC Clubhouse

Thu Mar 28 2024

7pm Dinner & Movie Night Where: BARC Clubhouse

Sun Mar 31, 2024

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



BARC Movie and Dessert Night



The 2024 Season of our BARC Movie and Dessert Night had a great start with the films **The Adventures in Baby Sitting** (1987) in January, and **Murder on the Orient Express** (2017) in February.

For March, we will be showing **Paul, Apostle of Christ**. In this movie, Luke risks his life to visit Paul, who is captive in a Roman prison under Nero's rule. Together, they struggle against a determined emperor and the frailties of the human spirit to live out the Gospel and spread the message to the world.

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:

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
February 22, 2024	Murder on the Orient Express

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 February at the Movies!

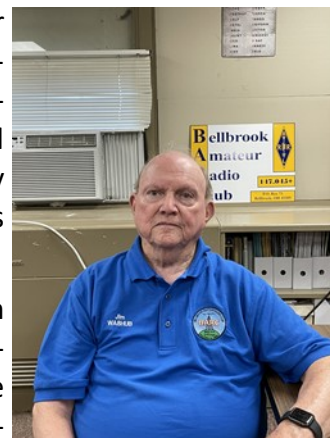
{Editor}



Lunch Bunch

Jim Totten, [WA8HUB](#)

Hello my fellow lunch lovers. March 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.

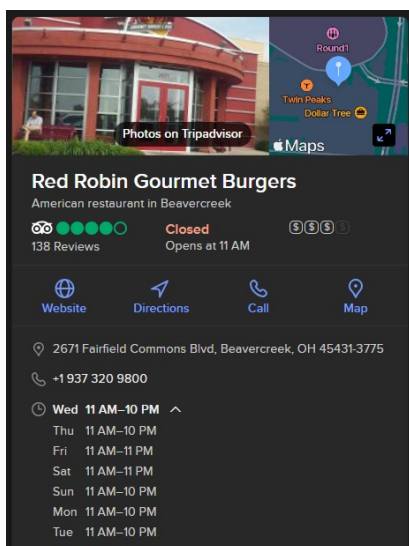
February had some excellent eating. We ate at the new City Barbeque at 2001 E. Dorothy Lane next to the entrance to Delco Park in Kettering . On February 27 we dined at an old favorite, Marion's Piazza at 1320 N. Fairfield Road in Beavercreek. Good parking and lots of seating. Last time we were there I had a Rueben Sandwich instead of pizza. Excellent.

March is going to have a couple of stand bys. On the 12th we are eating at the Red Robin in Beavercreek, at Fairfield Commons. Famous for their stacked fries. The 26th is a special pizza lunch at the Beavercreek Pizza Dive located near the corner of Grange Hall and Dayton Xenia Rd. You get to pick already made slices or a whole pizza.

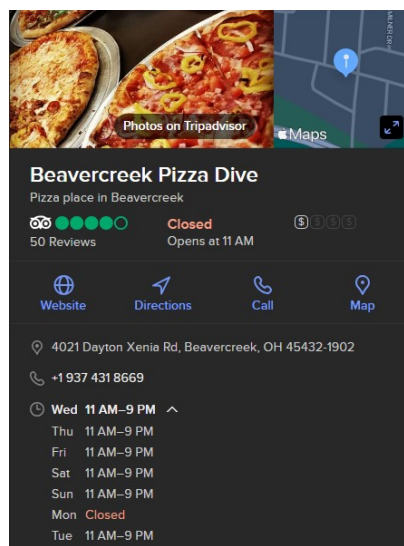
That's a wrap for this month. Happy eating.

73, Jim [WA8HUB](#)

Tuesday, March 12, 11:15am



Tuesday, March 26, 11:15am



Lunch Bunch 2023 List

Jim Totten, [WA8HUB](#)

Date	Restaurant	Address	City	Phone Number
4/9/24	Cherry House Cafe	1241 Meadowbridge Dr.	Beavercreek, OH 45434	(937) 320-6200
4/23/24	Another Broken Egg Cafe 7:00 am to 2:00 pm	2453 Esquire Dr.	Beavercreek, OH 45431	(937) 912-5074
5/14/24	China Garden Buffet	112 Woodman Dr. Airway Shopping Center	Dayton, OH 45431	(937) 781-9999
5/28/24	First Watch 7:00 am to 2:30 pm	5245 Cornerstone North Blvd	Sugarcreek Township, OH 45440	(937) 732-9013
6/11/24	Submarine House	3195 Dayton-Xenia Rd.	Beavercreek, OH 45434	(937) 429-8650
6/25/24	Roosters Wings	2430 N. Fairfield <i>The Shoppes at FC</i>	Beavercreek, OH 45431	(937) 702-9500
7/9/24	Golden Corral Buffet and Grill	2490 Commons Blvd.	Beavercreek, OH 45431	(937) 613-5478
7/23/24	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



The April Eclipse

John Westerkamp, [W8LRJ](#)

The Eclipse

It's only one month away! The Miami Valley and a large portion of Ohio will experience a total eclipse of the sun on Monday, April 8, 2024. The partial eclipse will begin at approximately 17:50 UTC (1:50 pm Dayton time) and will end at 20:25 UTC (4:25 pm Dayton time). If you are lucky enough to be near the centerline of the eclipse path in the Miami Valley, you will get about 4 minutes of total eclipse beginning around 19:09 UTC (3:09 pm Dayton time) and ending at 19:13 UTC (3:13 pm Dayton time). In the Beavercreek area, we will only get 2 minutes of totality beginning just before 19:10 UTC (3:10 pm Dayton time) and ending just before 19:12 UTC (3:12 pm Dayton time). So be ready around 3 pm on April 8 and let's hope for clear skies!



Eye Safety

Now that you have the details, let's talk about the eclipse itself and go over some good websites for more information. First of all, be safe, and **DO NOT LOOK DIRECTLY AT THE SUN AT ANY TIME DURING THE EVENT!** There are several sites where you can get sun safe glasses to wear. You can also get sun safe covers that fit over your binoculars so that you can view the partial eclipse as it develops. Be sure that they meet ISO 12312-2 certification. Good welder's glass can also do the trick, but I would not trust it unless it was certified for solar viewing. During the two minutes of totality, you can view the event directly, but be ready to put your sun safe glasses back on as the end of the two minutes approaches. Many county organizations are offering free sun safe glasses (including Greene County).

Ohio Eclipse Information

The Ohio Emergency Management Association has lots of information about the eclipse and various resources if you are looking for a place to view it.

[Ohio EMA Eclipse Information](#)

The Dayton Daily News has a page with all the scheduled events by county.

[Dayton Daily News Eclipse Events](#)

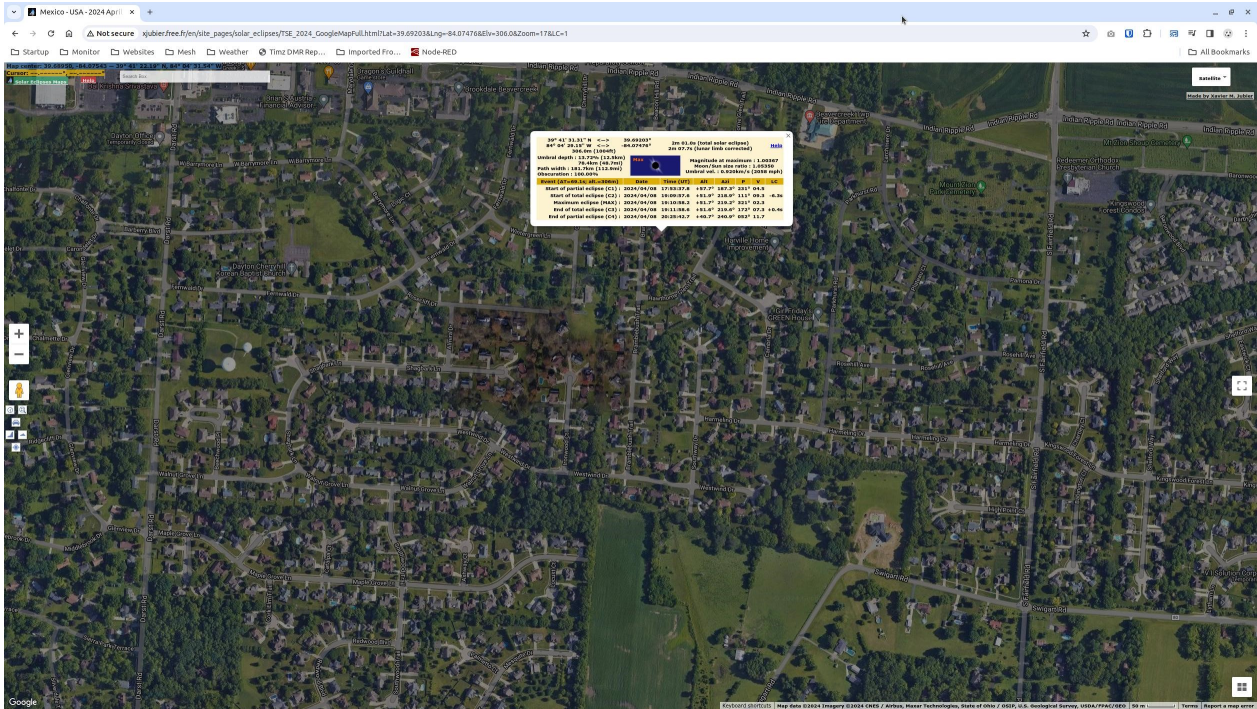
What Time Do Things Happen?

Here is a great website that lets you click on any location in Google Maps and it will display all the times for the eclipse at that location including the beginning of the partial eclipse, the beginning of the total eclipse, the end of the total eclipse, and the end of the partial eclipse. This is the site I used to get the times at the beginning of this article. {Editor: link below, graphics on next page}

[Mexico - USA - 2024 April 8 Total Solar Eclipse - Interactive Google Map - Xavier Jubier](#)

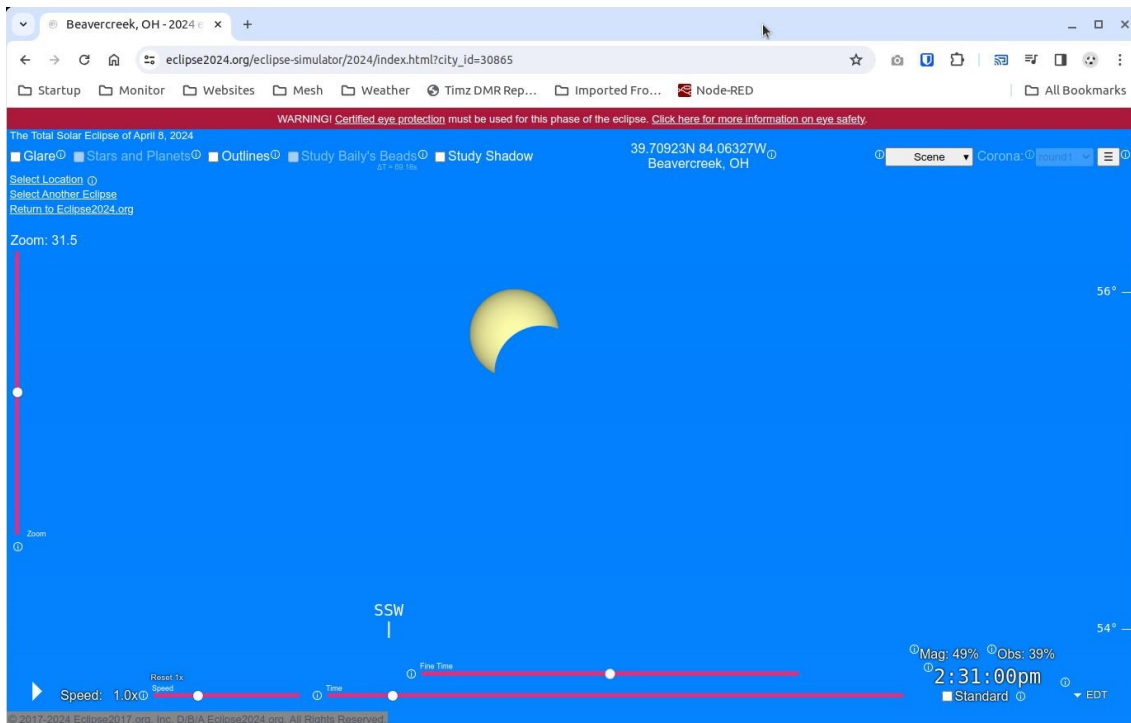


The April Eclipse (continued)



What Will I See?

[Here is a site](#) (below) that provides a simulation of the sky during the eclipse event. Just type in your location, then select *Launch the Eclipse Simulator* in the pop-up window.



The April Eclipse (continued)

What Else Can I Expect?

Here are some things you can expect to see and hear during the eclipse.

1. As the partial eclipse begins, you won't notice much of anything different, other than the sun beginning to be obstructed by the moon when viewed through sun safe binoculars.
2. As the partial phase progresses, you may begin to notice mini-eclipses on the ground. These are caused by the pinhole effect as light from the sun passes through trees. You can also make a pinhole viewer by pushing a pencil tip barely through a piece of paper. Look at the image on the ground (do not look at the sun!) and you will start to see the partial eclipse of the sun.
3. At some point, you will suddenly realize that it is indeed getting darker, almost like early evening. The temperature will also begin to drop (so be prepared with a good jacket).
4. As you approach the time of the eclipse, animals will start behaving differently as though preparing for evening by suddenly disappearing and getting very quiet. You may begin to hear crickets as you would near twilight. It is now getting very cool.
5. As totality approaches, you may be able to see the shadow of the eclipse moving toward you by looking off to the southwest if you have a good view of the horizon.
6. Once the total eclipse phase begins, the sun will go completely black, and I mean black hole black. You will see the very white corona around the sun and maybe even some solar flares. The sky will darken to almost night and stars and planets will come out. This year, you should be able to see Mercury, Venus, and possibly Jupiter! It is truly awe inspiring!

Here is a link to a website that describes the timeline of the eclipse and what to expect.

[Great American Eclipse Phenomena](#)

My Experience in 2017

The last total eclipse in the United States went from the northwest to the southeast and passed through Kentucky in August of 2017 (this one is moving from the southwest to the northeast). My XYL, Lori, and I visited Franklin, Kentucky, on the border with Tennessee pretty much in the center of the eclipse. We left the day before and stayed overnight so we could set up early the next day to view the eclipse. Traffic the night before was normal. Luckily, the Dueling Grounds Distillery is located in Franklin so we were able to entertain ourselves the night before the eclipse.

On the morning of the eclipse (totality was not until about 2:30 pm), we set out for a Drive-In Theater just down the road from our hotel at about 10 am. They advertised \$5 per carload to set up in the parking lot. Plus they had running water and flush toilets since we would be there all day. Traffic was already horrible! It took us about one-half hour to go the approximately one mile to the drive-in as cars slowly made it into the parking lot and paid at the entry booth.



The April Eclipse (continued)

Once in the parking lot, we parked in a space and opened the back trunk door on my Honda CRV and set out a table and chairs so we could be in the shade (it was very warm as one might expect in August in Kentucky). Lori was smart enough to pack lots of sandwiches, snacks, and drinks for the day and we settled in around 10:30 am.



It was a very family atmosphere with lots of music and kids wandering around with their parents to check out all the telescopes and binoculars that others had brought. I had a very nice pair of astronomy binoculars with sun safe covers that I set up on a tripod so the view would be steady. There was lots of interest in my set up and by the time the partial eclipse started, we had a crowd.

We experienced many of the items listed above and made pinhole viewers for the kids to see the crescent sun. As totality approached, there was a very eerie feeling, maybe because subtle changes in the air, light, and animals were occurring and our brains knew something was wrong. As totality began, we saw the sun go black surrounded by the white corona, it was beautiful. Several stars appeared in the sky near the sun in the middle of the afternoon. Amazing!

It was all over in a few minutes and the sun peeked out from behind the moon and began to grow again. Some people left, but many stayed behind for the rest of partial eclipse phase, as we did. Later in the afternoon as the parking lot emptied out, we headed out ourselves and the nightmare began!

Although people arrive in the area over several days and hours before the eclipse begins, they all leave at exactly the same time! What was normally a 4 hour trip took us 8 hours, most of which was just standing completely stopped in traffic. And that was before we even got to the highway! We thought we would be smart and take backroads to a highway entrance further north, but that strate-



The April Eclipse (continued)

gy also failed. The traffic volume in all directions was just more than the roads could handle. Until all the traffic finally merged onto the interstate and moved further north, it was a standstill or barely moving. We got home after midnight.

Some tips based on our experience.

1. Expect friends and relatives to call to see if they can stay with you during the event.
2. A few days before the eclipse, be sure to hit the grocery store, fill up your gas tank, and charge all your radios. The store shelves will be empty and there will be no water (although April is cooler so water may be more available).
3. If you are leaving your home and going to another area to watch the eclipse, be sure to bring coolers with food and drinks and bring a jacket as well as sun safe glasses or sun safe covers for your binoculars. Make sure they have toilets!
4. Bring a chair and maybe a table.
5. It is tempting to take pictures or videos, but I suggest just taking in the event.
6. Expect traffic after the eclipse to be a nightmare.
7. Expect cell phone service to be limited (including 9-1-1).
8. Schools and many businesses may be closed on April 8.
9. It is April in Ohio, if you are at an outdoor venue away from home, know your escape route in case of bad weather, or worse, a tornado.

A total eclipse is a once in a lifetime event and we are fortunate to have one passing through Ohio. We plan to cookout and party on our deck and view the eclipse with friends and relatives. Have a great time but be prepared! Here's to clear skies and warm weather!

73 de [W8LRJ](#)



Answers to Amateur License Test Questions (from [page 28](#))

Technician	General	Amateur Extra
T1D04 (A) [97.113(a)(4), 97.113(c)]	G0B09 (A)	E4B05 (B)
T4B01 (B)	G1C01 (A) [97.313(c)(1)]	E6D01 (A)
T5B11 (A)	G2B02 (B)	E6F08 (C)
T9A03 (B)	G7A01 (B)	E7B10 (B)



Odds and Ends — Some Objects of Interest

Jim Totten, [WA8HUB](#)

I was looking at some items I had ordered based on a YouTube creation by “HOA Ham”, Bob, KD4BMG. The particular video was titled “Single Ground Radial System for ALL Your Portable Antennas: POTA, SOTA, Back Yard Portable”. The video was fascinating. I recall the various methods, techniques, and materials used in some POTA activations I had witnessed. I got busy and ordered all of the parts Bob used. I have enough materials to have a build your own day at BARC. Turns out you cannot order just 1 or 2 pieces. You have to get a bag except for the wire. The wire, ordered from Amazon, was a 100 ft spool. Using a DX Commander recommendation the spool can supply 6 radials.



My New Years Resolution for 2024 was to learn CW enough to get on the air without totally embarrassing myself. The first thing I did was go to the Long Island CW Club (LICW) and get a membership. I went ahead and got a lifetime membership. I won't tell you my membership # but it was noted I was #140 in Ohio. Now what? I need to be able to send CW on the LICW Zoom meetings.



In the process of moving from a long established residence, it was inevitable that things got 'buried'. I wanted to get back to CW. I knew that I had at one time a CW Oscillator. Question was where. I saw an add for a new solid state CW oscillator and made the purchase. Put it all together and was ready to install in its case when a family emergency put things on hold. I still have the unit. It's not installed in the case but it will work.

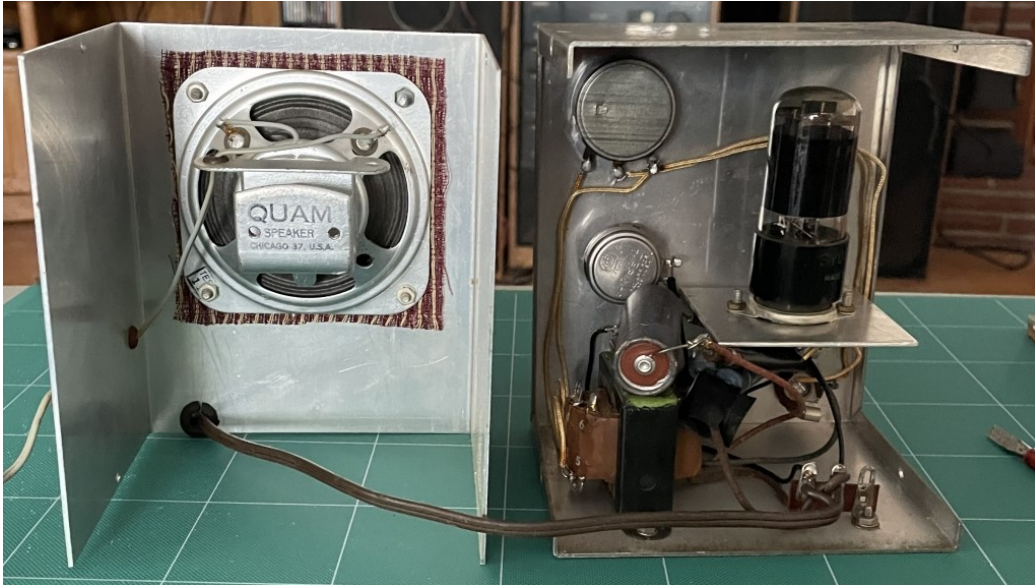
Within the last year I found my old original CW Oscillator. It had been dropped on a hard floor and I was almost afraid to plug it in. With courage I did the deed. No smoke or fire. Then I plugged in a key turned it on and got sound. I don't remember when I built the unit but it is old enough that the power cord is a bit stiff. The sound is terrific. This unit is NOT solid state. I would like to show you the technology used. Herewith some pictures and commentary.



This is the back side of my oscillator showing the speaker grill.



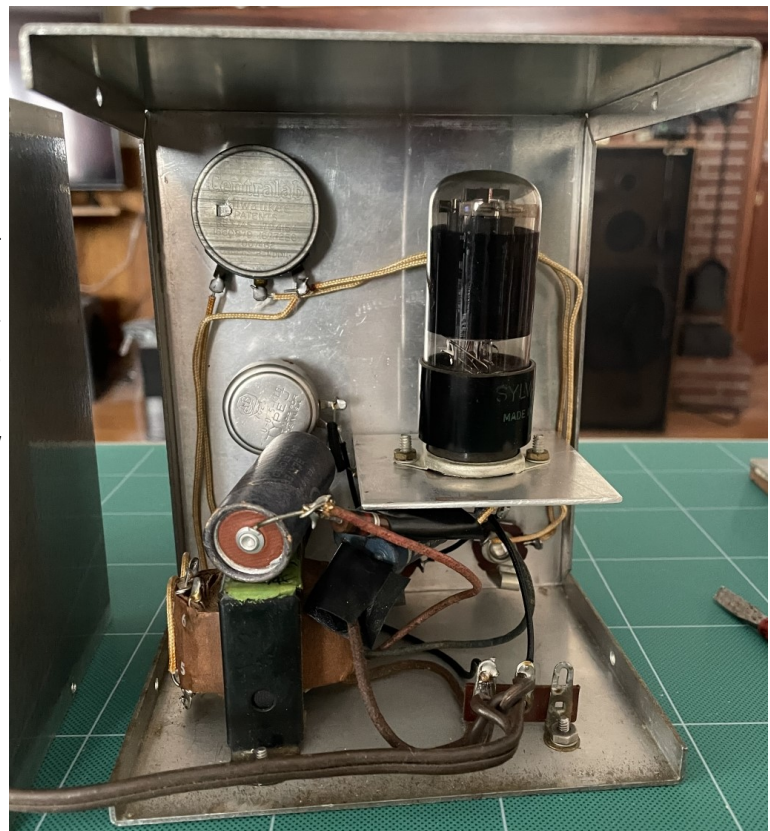
Odds and Ends — Some objects of interest (continued)



This picture shows the box taken apart and you start to see this older construction.

“Holy Cow” a vacuum tube. I don’t remember the nomenclature of the tube and I am hesitant to remove it. The unique characteristic is the filament voltage is 117v. The tube contains all the functions necessary. Rectifier and oscillator. Don’t know how clean is the tone but it sounds good.

That is the end for this time. Maybe I can find some more...strange...or...unusual... in the future.



73, Jim [WA8HUB](#)

Node-RED for Shack Control

John Westerkamp, [W8LRJ](#)

If you are like me, when you go into your shack in the morning, the first thing you do is go around and turn on all your equipment, inevitably forgetting to turn something on or doing it in the wrong order. Wouldn't it be great to organize and automate all of that and get a bonus of being able to control your power and radio equipment remotely? Enter Node-RED!



What Is Node-RED?

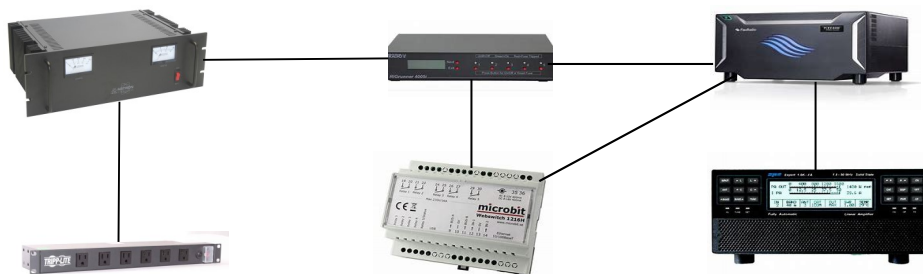
According to the [Node-RED website](#), Node-RED is a programming tool for wiring together hardware devices, APIs, and online services in new and interesting ways for *event-driven applications (like amateur radio applications)*. It provides a browser-based editor that makes it easy to wire together flows using the wide range of nodes in the palette that can be deployed to its runtime with a single click. The website has a video tutorial of the basic features, but don't be overwhelmed! Luckily, hams have already done all the work creating nodes for you and made them available for download. You just wire them together!



I stumbled across Node-RED while looking for a way to remote my shack so I could turn things on and control the equipment remotely. I could already run the FlexRadio 6400 remotely, but could not control my Expert Linear amplifier and also had to leave the power on when I left the house. My daughter lives in Colorado and I saw this ad for a site that already had an antenna farm! Wouldn't it be great to set up my shack there, control it, and play radio from wherever I am! Well, I can dream!

Setting Up My Shack

The first step was getting all the power and control devices set up so they could be controlled over Ethernet, so I purchased a [RigRunner 4005i](#) and a [Webswitch 1216H](#). The RigRunner has PowerPole Connectors on each of five 12V output ports that can be turned on and off via a web interface. The Webswitch has a set of relays that can also toggle a control port. I needed both because, for remote operation, the FlexRadio requires that the main power be turned on, but also requires that you toggle an electronic switch instead of pressing the button on the front panel. Power is provided by an Astron rackmount 30 amp power supply connected to the rack mounted TrippLite surge protector.



(Continued on next page)

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Node-RED for Shack Control (continued)

Some notes about this setup.

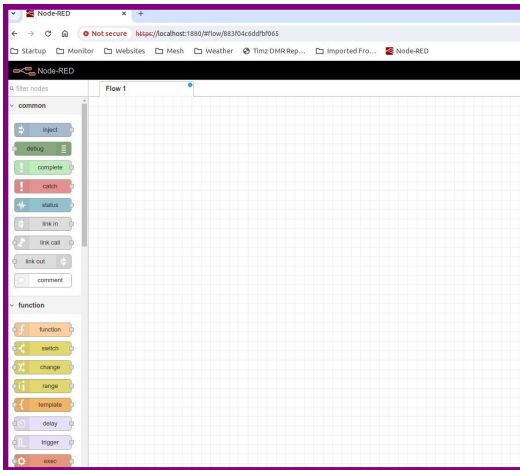
1. All the equipment is rack mounted.
2. The Astron and TrippLite are always on.
3. There are Ethernet connections to the RigRunner, the Webswitch, and the FlexRadio.
4. There is a USB connection to the Expert Linear amplifier (this goes to a Raspberry Pi as explained below).

The sequence of events for startup is as follows. Everything below is controlled by Node-RED.

1. A signal is sent over Ethernet to the RigRunner to power it on and to send power to the FlexRadio and the Webswitch.
2. The Expert Linear is set up to turn on automatically when power is applied to the FlexRadio.
3. Another signal is sent over Ethernet to the Webswitch to trigger the FlexRadio remote-on port.

At this point, everything is powered on and Node-Red can control the Expert Linear including changing the output power levels and tuning. The FlexRadio can be controlled remotely using the SmartSDR software.

Building A Flow



So how does Node-RED work its magic and control all of these devices? First, you must download and install Node-Red from its website. Click on *Get Started* for detailed step-by-step instruction for installing Node-RED on Linux-based machines or on Windows PCs (sorry Mac!). Once the software is installed and you start it up, you are presented with a work area and a set of nodes along the left side that you can drag and drop onto the worksheet and wire together.

Building a flow from scratch would be a lot of work, but as mentioned, we are lucky that hams have taken to Node-RED and have build a large library of flows for lots of different amateur radio equipment. All you have to do is load the ones

you want and connect them together by clicking on the output of one node and then the input of the next node. You can find nodes for your radio at <https://groups.io/g/nodered-hamradio>.

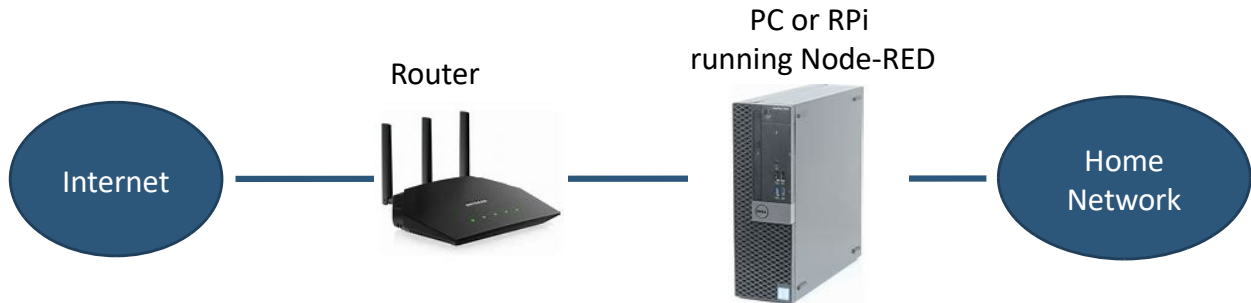
I was able to find flows for the FlexRadio, the Expert Linear, the RigRunner, and the Webswitch. I downloaded these flows, installed some prerequisite nodes, then loaded the amateur radio flows. I had to edit a few of the nodes to match my particular setup, like the IP addresses of my devices and the port numbers for the RigRunner outputs and the Webswitch outputs.



Node-RED for Shack Control (continued)

Network and Internet Setup

Once I had the whole flow working, I ported it over to a Raspberry Pi and made the Node-Red application available to the Internet so I could access it remotely. The diagram below shows my network set-up.



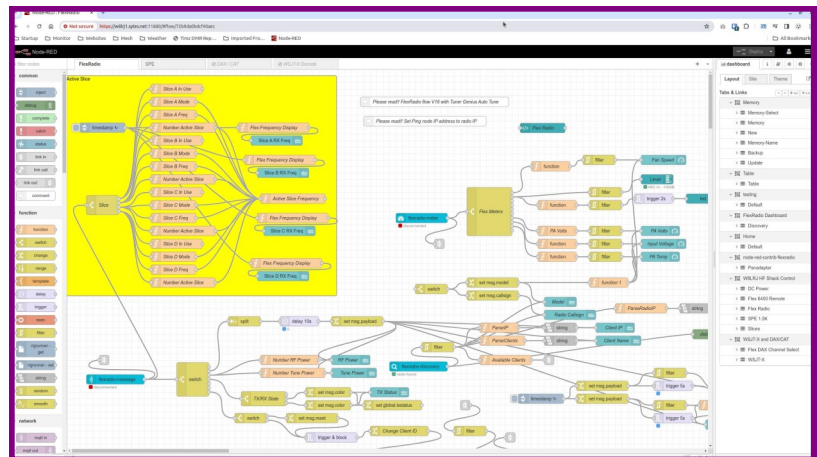
Here are some notes on the network setup.

1. Following instructions on the Node-RED website, I updated Node-RED to run *https* and to require a password for added security.
2. The router was set up to Port Forward the external port 11880 (any port is ok) to the internal port 1880 (must be this).
3. The IP address for the Port Forward was set to the IP address of the Raspberry Pi running Node-RED.

If you point your browser to <https://w8lrj.sytes.net:11880>, you should see the login page for my Node-Red site.

W8LRJ Shack Flow

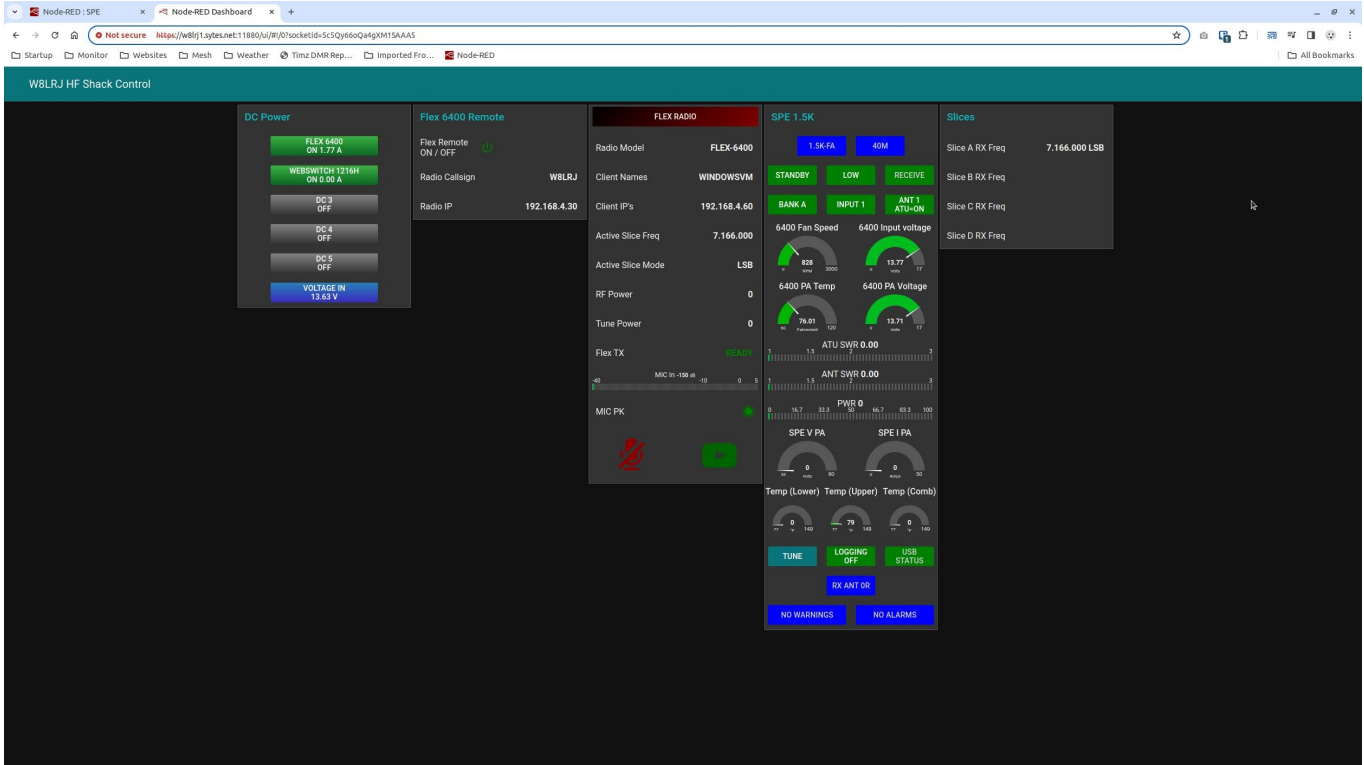
The detailed flow for my system is broken into several flows, one for each device as shown. Note the tabs for FlexRadio and SPE (Expert Linear). They are complicated, but I just installed them and took off! You can see that there are a few IP addresses that need to be set up by just double-clicking on a node and changing the IP address in the code.



Once you have the flow all laid out and set up for your equipment, you can click *Deploy* in the top right corner and a new web page will open with your dashboard showing the results of any data you have selected for display. This dashboard is what you use to control the power and equipment in your shack. My current dashboard is shown on the next page.



Node-RED for Shack Control (continued)



My W8LRJ HF Shack Control Dashboard allows me to (from left to right)

1. Turn power on to the FlexRadio and the Webswitch,
2. Toggle the FlexRadio remote on port,
3. See the current settings from SmartSDR for the FlexRadio (up to 4 slices),
4. Put the Expert Linear amplifier into *Operate* mode and change the power setting (done via the USB connection to the Raspberry Pi),
5. Monitor the output power and SWR seen by the amplifier,
6. Trigger the internal tuner in the amplifier, if needed, and
7. Monitor various other parameters including voltages and temperatures.

The initial learning curve is a bit steep, but after a couple of days, I had a working flow with my equipment and was able to experiment with additional flows and settings over the next few weeks. I am now able to control the power and all the necessary settings for my radio and amplifier completely, either at home or remote. This allows me to be compliant with FCC requirements that, when operating remotely, I should be able to kill the power if something goes wrong to avoid interfering with other operators. This was time very well spent and a lot of fun!

There are a large number of YouTube videos showing how to build Node-RED flows for various radios, including the popular IC-7300. Most of these flows can be found on the groups.io page mentioned previously. Feel free to email me any of your questions, too.

73 de [W8LRJ](https://www.w8lrj.com/)



Interfacing Xiegu G90 with Raspberry Pi

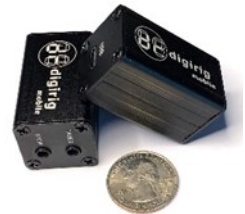
Ray Hitt, [N8VMX](#)

Many of you either have or have seen others use the Xiegu G90 HF radio. It puts out less power (20W) than a standard 100W HF radio, for example, the IC-7300. However, it's designed to be portable and is a natural for POTA operations. So, at some point, you may want to set this radio up for digital operation. In my case, I am leaning towards a Raspberry Pi 4/5 and a portable 5V USB-C powered HDMI display, a small keyboard and mouse. You can instead use a small Windows laptop which is covered in the References. For now, I'll walk you through any additional hardware you'll need to get up and running on a Raspberry Pi, setting up a Raspberry Pi to communicate digitally with a Xiegu G90, and what settings need to be configured on the radio.



Hardware: It's possible to connect your Raspberry Pi to the Xiegu G90 through a homebrew interface; the Xiegu CE-19 accessory you may have purchased when you got your G90; a Signalink; or a Digirig. I started out using a Xiegu CE-19 and a modified audio cable that connected to a USB sound card accessory plugged into the Raspberry Pi. I ran into issues where the audio levels could not be set properly. There was feedback in the audio path which I attribute to the fact you need to short out the left and right channels together to provide a monophonic input into the G90. More details on building these cables are in the references.

I traded all my frustration away for peace of mind by buying a Digirig and a set of two prebuilt cables that plug into the G90, providing CAT control and audio input/output. This setup provided proper audio and was very easy to set up. Additionally, I purchased another set of Digirig-to-Yaesu cables which I can swap out if I want to use the Raspberry Pi with my FT-897 in my mobile setup. I favor ease of setup for POTA operation and the Digirig and cables provides that.



https://digirig.net/wp-content/uploads/2021/03/dirig-mobile-1_5-2-2048x2048.jpg



<https://digirig.net/xiegu-g90-cables-build/>

The Digirig setup involves plugging one cable into the 8-pin DIN connector on the back of the radio, which is the AUX audio in/out for the G90. It plugs into the AUDIO connector on the Digirig. The 2nd cable plugs into the COM connector on the side of the radio head unit (the lower connector, not the identical headphone connector right above it). It gets plugged into the SERIAL connector on the Digirig (these connector ends are color coded to the Digirig connectors if you purchased the cables from Digirig). The third and final cable runs from a Raspberry Pi USB port into the USB-C connector on the Digirig. I recommend

you leave the G90 **powered off** while you are connecting all the cables, otherwise the G90 will latch into transmit mode while setting the cables up (this is not a feature!). Once it's all connected, the G90 can be powered up.



Interfacing Xiegu G90 with Raspberry Pi (continued)

Software Installation on Raspberry Pi: To start out, you need to install the programs you expect to use with digital mode on the Raspberry Pi. In my case, this is *FLRig* (Rig Control), *FLDigi* (for PSK-31, RTTY and CW decoding/encoding), *WSJTX* (for FT-8, FT-4, and other similar modes), *NTP* and *GPSD* (for precision network time-keeping with or without Internet access), and *Pulseaudio* (mixer for audio level control). I also add *GQRX* (for SDR use), but that's more for the home environment than for POTA, so I won't install that here.

To install on a Raspberry Pi, it's easier and more informative to use the command line text window than to use the Add/Remove tool in the GUI menu. To install software, you need root (administrator) access, which is granted by preceding any command with "sudo". To install the required programs, type the following commands in sequence. Bear in mind that *sudo* requires you to enter your login password to verify your identity. If you don't know or haven't set your user password yet, take care of that before you start. It also makes sense to check for any error messages between these installation commands to make sure they worked.

- To install FLRig (type only what's in white): `hittra@pi5-64:~ $ sudo apt install flrig`
- To install FLDigi: `hittra@pi5-64:~ $ sudo apt install fldigi`
- To install wsjtx: `hittra@pi5-64:~ $ sudo apt install wsjtx`
- To install pulsemixer: `hittra@pi5-64:~ $ sudo apt install pulsemixer`
- To install NTP: `hittra@pi5-64:~ $ sudo apt install ntp`
- To install GPSD: `hittra@pi5-64:~ $ sudo apt install gpsd gpsd-clients`

If you feel confident, you can combine these all into a single command. Notice the program order is different, it doesn't really make any difference when installing. You do have to set up or run these programs in a certain order though.

```
hittra@pi5-64:~ $ sudo apt install pulsemixer wsjtx flrig fldigi gpsd gpsd-clients ntp
```

Software Configuration on Raspberry Pi

NTP and GPSD: I covered installation and configuration of these two programs exhaustively in the [Oct 2022](#) (page 22), [Nov 2022](#) (page 10), and [Dec 2022](#) (page 11) *Full Quieting* Newsletters (titled *Time in the Field*) so I'll skip over that here, please refer to the detailed instructions there.

FLRig: Before running *flrig* for the first time, if you use *flrig* for multiple radio types, I *highly recommend* setting up configuration folders for each radio. This keeps them from getting overwritten when a new radio is set up. For example, type the following to set up a new folder for your Xiegu G90:

```
hittra@pi5-64:~ $ mkdir $HOME/flrig-xiegu-g90/
```

Then run *flrig* by typing the following (don't just type *flrig*)

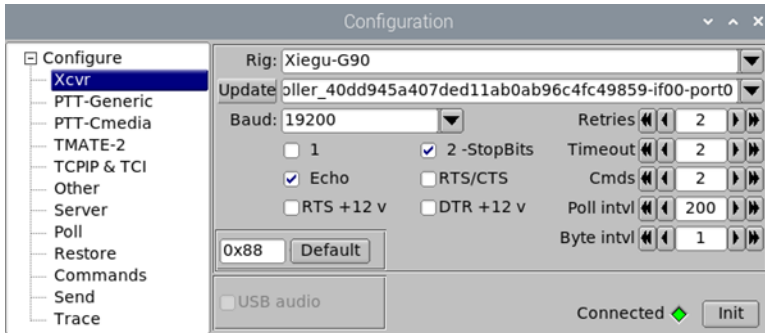
```
hittra@pi5-64:~ $ flrig --config-dir $HOME/flrig-xiegu-g90/
```



Interfacing Xiegu G90 with Raspberry Pi (continued)

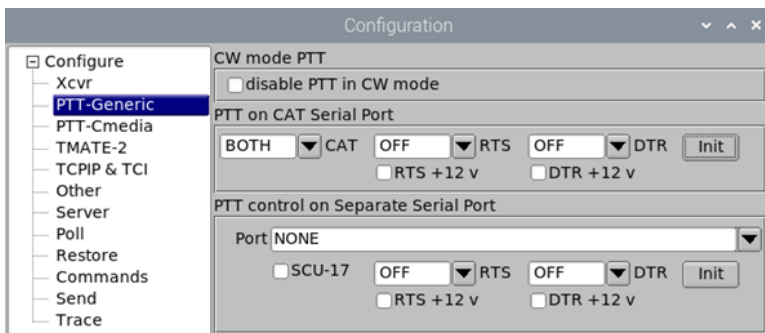
What this does is set up a blank folder that will become filled with your Xiegu G90 configuration settings. You can repeat this step for each radio you have a configuration for. I'll focus on the Xiegu G90 here, but I also have configurations prebuilt and tested for the IC-7300 and FT-857D, giving me flexibility when I operate POTA.

When you run *flrig* initially, there is no configuration, so you need to enter the settings. Here's the recommended settings for the XCVR tab:



You select the Rig, then hit update and select the name of your USB port where the Digirig is connected. The name is really long, it starts with `/dev/serial/by-id/usb-Silicon_Labs_CP2102N...`

Then set up the baud rate and other selections to match what's here.



The other tab to change is "PTT-Generic". Make sure the PTT on CAT Serial Port is set to "BOTH", and make sure the other settings match.

You can make a desktop shortcut to run *flrig* by double-clicking on its icon. When you installed *flrig*, there should be an *flrig.desktop* file in the `/usr/share/applications` directory.

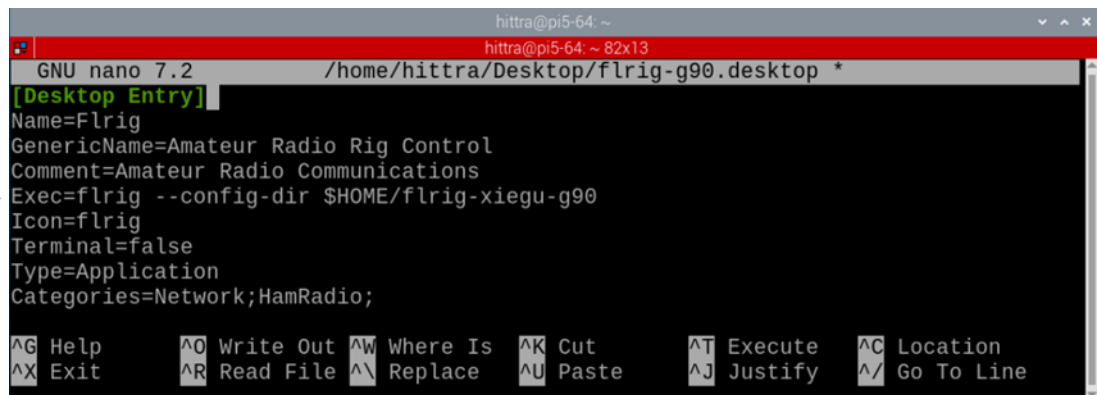
Copy it to your Desktop and make some changes to it to use your new Xiegu G90 configuration directory instead of the *flrig* defaults. Something like this:

```
hittra@pi5-64:~$ sudo cp /usr/share/applications/flrig.desktop $HOME/Desktop/flrig-g90.desktop
```

Then edit the desktop file to point to the Xiegu configuration directory as follows:

```
hittra@pi5-64:~$ sudo nano $HOME/Desktop/flrig-xiegu-g90
```

Change this line



Hit CTRL-X (shown as ^X) to exit, then hit Y to save your changes. You can now double-click this shortcut on your Desktop to run *flrig*.



Interfacing Xiegu G90 with Raspberry Pi (continued)

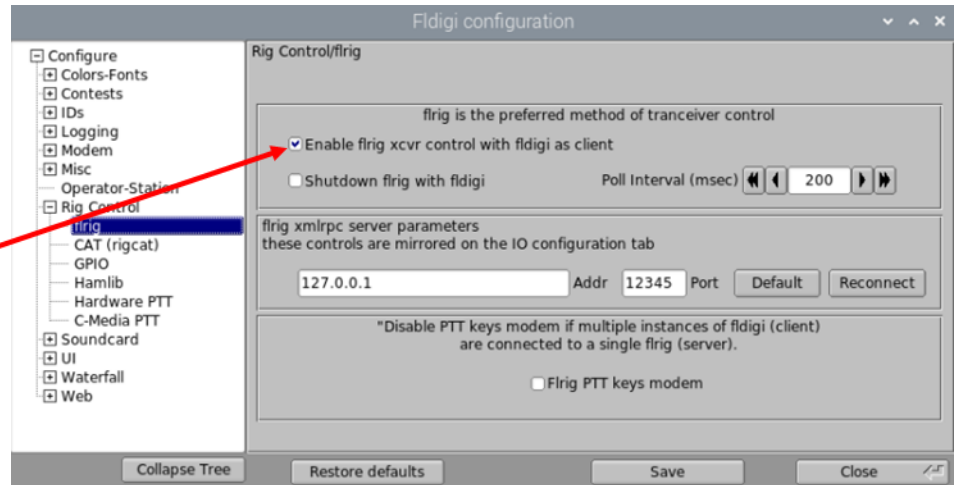
FDigi: The process is a close match to configuring *FRig*, so I'll be brief here. Here are the steps:

Set up a configuration folder for *fldigi*: `hittra@pi5-64:~$ mkdir $HOME/fldigi-xiegu-g90/`

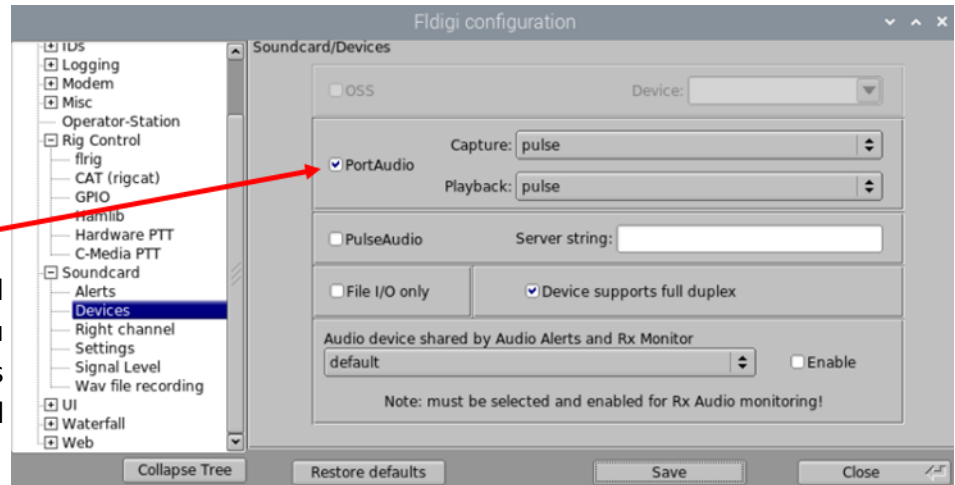
Run *fldigi*: `hittra@pi5-64:~$ fldigi --config-dir $HOME/fldigi-xiegu-g90/`

Make the following changes in the Configure -> Config Dialog:

Under *Rig Control* -> *flrig*
make this change:



Under *Soundcard* -> *Devices*
select *PortAudio* and the
pulse drivers for capture and
playback as shown here. You
can control the volume levels
with *pulsemixer*, which I'll
show later.



You can also setup a Desktop shortcut like you did for *flrig*.

Copy the stock *fldigi* desktop file:

```
hittra@pi5-64:~$ sudo cp /usr/share/applications/fldigi.desktop $HOME/Desktop/fldigi-g90.desktop
```

Then edit it: `hittra@pi5-64:~$ sudo nano $HOME/Desktop/flrig-xiegu-g90`



Interfacing Xiegu G90 with Raspberry Pi (continued)

Make this change

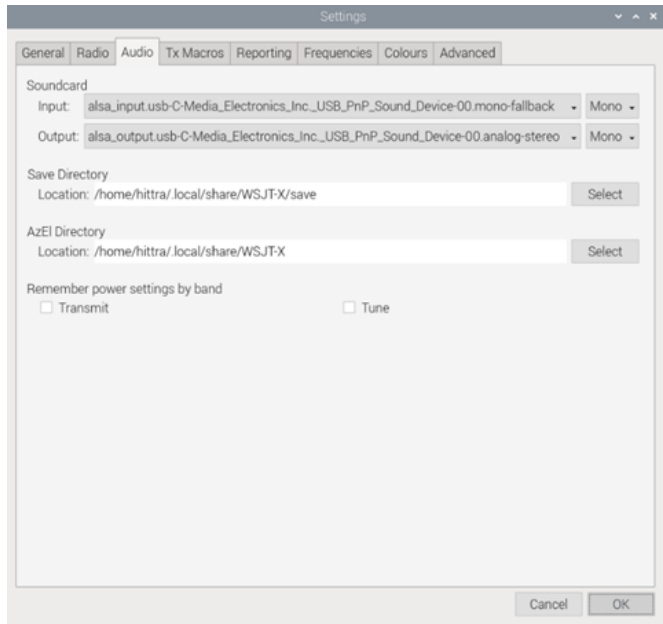
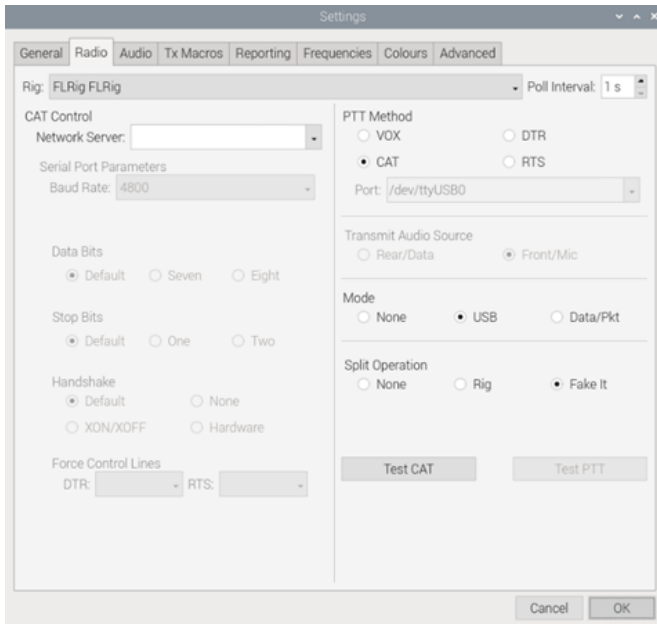


```
hitra@pi5-64 ~
hitra@pi5-64 ~ 82x13
/home/hitra/Desktop/fldigi-g90.desktop *
GNU nano 7.2
[Desktop Entry]
Name=Fldigi
GenericName=Amateur Radio Digital Modem
Comment=Amateur Radio Sound Card Communications
Exec=fldigi --config-dir $HOME/fldigi-xiegu-g90
Icon=fldigi
Terminal=false
Type=Application
Categories=Network;HamRadio;
^G Help      ^O Write Out ^W Where Is  ^K Cut       ^T Execute  ^C Location
^X Exit      ^R Read File ^N Replace   ^U Paste     ^J Justify  ^_ Go To Line
```

WSJTX: *WSJTX* is easier to set up than *flrig* and *fldigi*. Since I use *flrig* as CAT control for both *fldigi* and *wsjtx*, a lot of the setup has already been done. Also, *wsjtx* allows for multiple configurations within the program itself, so there are no extra folders to set up. If you haven't done this already, look under the *Configurations -> Default* and select *Clone* to make a copy you can edit. There will be a new menu item called *Default - Copy*. Rename this to *Xiegu G90* and then select *Configurations -> Xiegu G90 -> Switch To*. That will set the Xiegu G90 configuration as default until you change it again.

Once the Xiegu G90 configuration is default, go into *File -> Settings* and select the *Radio* tab. Under *Rig*, choose *FLRig FLRig* and make the other changes shown here. Note that depending on the firmware version your Xiegu G90 is running, you may or may not have a USB Data (USB-D) mode on your radio. It was added in 2023 in Version 1.80. I show USB as the mode in the dialog box, you may have to manually select USB-D mode on your radio until *FLRig* is updated with this change.

Under the *Audio* tab, select the audio card I show in the dialog box. Note that there are probably so many choices available that it is close to (or below) the bottom of the screen. Just cancel and move the entire *wsjtx* window as high as possible on the screen and try again (this is really annoying!).



Interfacing Xiegu G90 with Raspberry Pi (continued)

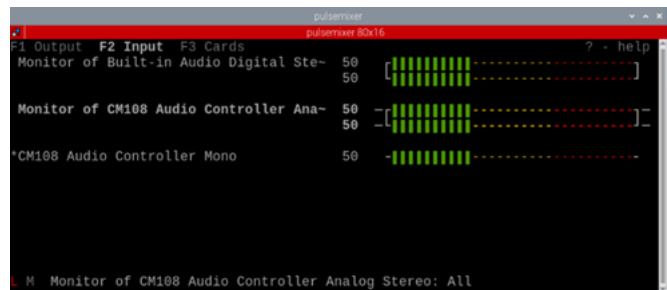
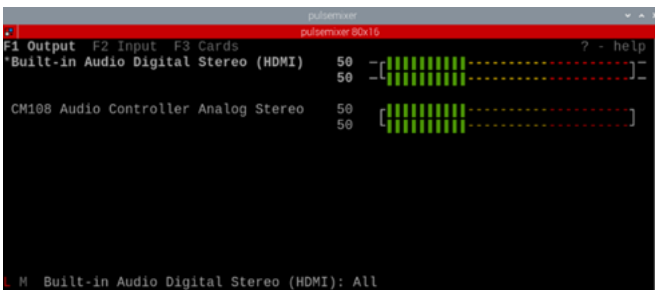
There are other *wsjtx* settings you can change, but this should get you up and running. Most of the defaults will work. You do need to personalize your information in the *General* tab (your call sign, etc.) but I assume you've already done that and it's already in the *Default* configuration. You can also set up configurations for your other radios the same way you just set up the Xiegu G90. Just make sure the radio is connected while you're setting it up or else the proper choices for audio may not be there (unless you're using a Digirig for your other radios).

Pulsemixer: This program is a throwback to the old command-line programs, but seems to be the only useful audio mixer program I've seen for the latest Debian Bookworm. It is stable and gives you control over all the analog inputs and outputs. This is important because you don't want to inadvertently route your computer audio to your transceiver for transmission. You only want the desired digital signals from either *FIDigi* or *wsjtx* to be routed to your transceiver.

To run it, just enter *pulsemixer* from the Linux command line. It will show the following screens. You can select the *Input*, *Output*, or *Cards* by hitting the Tab key, or clicking them with the mouse. To change the audio levels, click on a specific sound input/output then use the up/down arrows to increase or decrease that audio level. Hit the "?" key for command help.

```
j k ↑ ↓      Navigation
h l ← →      Change volume
H L Shift- Shift- Change volume by 10
1 2 3 .. 8 9 0 Set volume to 10%-100%
m            Mute/Unmute
Space       Lock/Unlock channels
Enter       Context menu
F1 F2 F3    Change modes
Tab  Shift Tab Next/Previous mode
Mouse click Select device or mode
Mouse wheel Volume change
Esc q       Quit
```

Here are some screenshots showing my configuration. Notice I set all the audio levels to 50%. This seems to be a sane setting for the Digirig working with *wsjtx* or *FIDigi*. You can adjust up or down from 50% to what works best in your situation, just be careful of overmodulating your transceiver which would lead to splatter in the band and not make you any friends in the FT-8 band!



Setting up the Xiegu G90: Some settings need to be changed for digital mode on the Xiegu G90. The most significant change is to change the input from microphone (Mic) to Line In. This will enable the 8-pin Aux port on the back of the radio to send and receive audio to/from the Digirig instead of the mic and speaker. Setting clean audio levels is also important to avoid distortion and increasing the bandwidth of your signal beyond what is necessary, so I'll show you how to change those too.



Interfacing Xiegu G90 with Raspberry Pi (continued)

A caveat here; if you have an older version of the firmware, the button menus may be slightly different than what I am describing here. I am using version 1.79 (Base) and Ver 1.80 (App). It's best to doublecheck with the Xiegu G90 Manual that matches the firmware version you are using.

To change the input from Mic to Line In, press the **FUNC** button, then press the **POW** button with two short presses. The input can be changed by rotating the tuning knob to the lower right of the radio. Pressing in the tuning knob after the selection is made will lock in the setting and exit that mode (going back to regular tuning mode for the tuning knob).

To inspect the audio levels in the radio, press and hold the **FUNC** button until you get a detailed settings menu on the screen. Press **NEXT** repeatedly until you get to menu 5, then menu 6 (Audio In and Audio Out). I set them both to 8 (out of 15) to avoid overdriving the radio. Set them to whatever works for you, they work in combination with the Raspberry Pi's *pulsemixer*.

Hopefully, this is enough information to get you up and running. If you get stuck, reach out to me, check out YouTube, or keep an eye out for an upcoming Tech Night where we can get into this as a group.

73, Ray, [N8VMX](#)

References:

XIEGU Radio Data Communication Connection Setup Tutorial: <https://xiegu.eu/wp-content/uploads/sites/4/2020/06/XIEGU-Radio-Data-Communication-Connection-Setup-Tutorial.pdf>

Xiegu G90, CE-19 & Cabling: <https://digitalshack.org/xiegu-g90-the-ce-19-cabling/>

Digirig: <https://Digirig.net/>

Xiegu G90 cords for Digirig Mobile: <https://Digirig.net/product/xiegu-g90-cords-Digirig-mobile/>

YouTube Video from K8MRD on setting up Digirig on Windows:
<https://www.youtube.com/watch?v=al99ItgnJ9U>



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 who may have joined the American Legion, some of you are in the Geratol age group, and the big news about the Solar Eclipse. Such a deal, all for the price of yearly dues!

03/15/2024 | Celebrating the 105th Birthday of the American Legion.

Mar 15, 1600Z-2200Z, AF4CB, Cartersville, GA. Carl Boyd Post 42 American Legion Amateur Radio Club. 7.242 SSB 14.342 SSB 7.074 FT8 14.074 FT8. QSL. Joel Myers, 513 Cassville Rd., Cartersville, GA 30120. www.post42cartersvillega.org

03/16/2024 | Cherry Blossom Special Event Station

Mar 16, 1400Z-2000Z, W4BKM, Macon, GA. Macon Amateur Radio Club. 14.240 7.225. Certificate. Macon Amateur Radio Club, P.O. Box 4862, Macon, GA 31208-4862. www.maconamateurclub.wordpress.com

03/17/2024 | GERATOL Net Anniversary

Mar 17-Mar 23, 0100Z-2359Z, W1G, Wheelwright, MA. Geratol WAS Net. 3.668 SSB 40 Meter SSB. QSL. Kevin Lynch, POB 124, Wheelwright, MA 01094. The GERATOL (Greetings Extra Radio Amateurs Tired of Operating Lately) WAS Net, will operate special event call sign

03/30/2024 | Total Solar Eclipse in Hunt county Texas

Mar 30-Apr 10, 0000Z-2359Z, W5E, Greenville, TX. Sabine Valley Amateur Radio Association. 7.235 14.280 21.400 28.450. QSL. K5GVL Sabine Valley Amateur Radio Association, PO Box 843, Greenville, TX 75403-0843. The Sabine Valley Amateur Radio Association will be celebrating a once in a lifetime solar event. On April 8th 2024 our favorite star the sun will be totally eclipsed for over 4 minutes! This will allow direct observation of the suns corona in real time. The SVARA will be operating W5E "Whiskey 5 Eclipse" from March 30th until April 10th to celebrate this unique and magical event! <https://k5gvl.com/w5e-total-solar-eclipse-special-event-station>



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 13](#).**

Technician

T9A03

Which of the following describes a simple dipole oriented parallel to Earth's surface?

- A. A ground-wave antenna
- B. A horizontally polarized antenna
- C. A travelling-wave antenna
- D. A vertically polarized antenna

T1D04

Under what conditions is an amateur station authorized to transmit music using a phone emission?

- A. When incidental to an authorized retransmission of manned spacecraft communications
- B. When the music produces no spurious emissions
- C. When transmissions are limited to less than three minutes per hour
- D. When the music is transmitted above 1280 MHz

T4B01

What is the effect of excessive microphone gain on SSB transmissions?

- A. Frequency instability
- B. Distorted transmitted audio
- C. Increased SWR
- D. All these choices are correct

T5B11

Which decibel value represents a power increase from 20 watts to 200 watts?

- A. 10 dB
- B. 12 dB
- C. 18 dB
- D. 28 dB



Amateur License Test Questions (continued)

General

G1C01

What is the maximum transmitter power an amateur station may use on 10.140 MHz?

- A. 200 watts PEP output
- B. 1000 watts PEP output
- C. 1500 watts PEP output
- D. 2000 watts PEP output

G7A01

What is the function of a power supply bleeder resistor?

- A. It acts as a fuse for excess voltage
- B. It discharges the filter capacitors when power is removed
- C. It removes shock hazards from the induction coils
- D. It eliminates ground loop current

G2B02

What is the first thing you should do if you are communicating with another amateur station and hear a station in distress break in?

- A. Inform your local emergency coordinator
- B. Acknowledge the station in distress and determine what assistance may be needed
- C. Immediately decrease power to avoid interfering with the station in distress
- D. Immediately cease all transmissions

G0B09

Which of the following is true of an emergency generator installation?

- A. The generator should be operated in a well-ventilated area
- B. The generator must be insulated from ground
- C. Fuel should be stored near the generator for rapid refueling in case of an emergency
- D. All these choices are correct



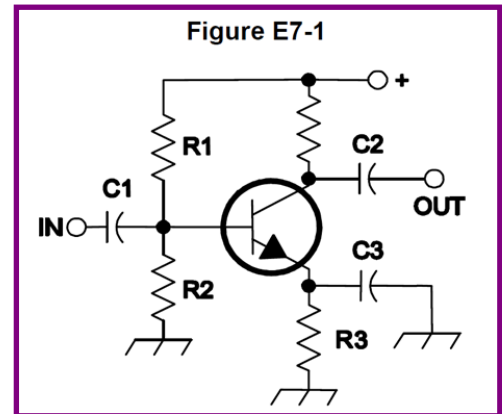
Amateur License Test Questions (continued)

Amateur Extra

E7B10

In Figure E7-1, what is the purpose of R1 and R2?

- A. Load resistors
- B. Voltage divider bias
- C. Self bias
- D. Feedback



E6F08

Why are optoisolators often used in conjunction with solid-state circuits when switching 120 VAC?

- A. Optoisolators provide a low impedance link between a control circuit and a power circuit
- B. Optoisolators provide impedance matching between the control circuit and power circuit
- C. Optoisolators provide a very high degree of electrical isolation between a control circuit and the circuit being switched
- D. Optoisolators eliminate the effects of reflected light in the control circuit

E6D01

Why should core saturation of an impedance matching transformer be avoided?

- A. Harmonics and distortion could result
- B. Magnetic flux would increase with frequency
- C. RF susceptance would increase
- D. Temporary changes of the core permeability could result

E4B05

What three test loads are used to calibrate an RF vector network analyzer?

- A. 50 ohms, 75 ohms, and 90 ohms
- B. Short circuit, open circuit, and 50 ohms
- C. Short circuit, open circuit, and resonant circuit
- D. 50 ohms through 1/8 wavelength, 1/4 wavelength, and 1/2 wavelength of coaxial cable

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.

