



Full Quieting

The Official Journal of The Bellbrook Amateur Radio Club



October 2025 — Issue 50

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From the Editor

Welcome to October! 'Tis the season of transition. Knowing Ohio, we'll transition from summer heat to winter snow (I hope not!). BARC is also in transition, as we have left our old clubhouse and are busily setting up the new clubhouse. Many things are happening, in the radio room, on the roof, and in the conference room (to a limited degree). We're making good progress, you'll be pleased.

Some more transition is taking place, with elections coming up. There will be some openings that you can step up and fill. Treasurer, and Junior Director come to mind. If you are contacted by our Nominating Committee once they start their search, please consider if this is something you'd like to try. All of us have stepped into one of these spots not knowing what to do initially, but with all the mentorship available in the club you'll be up and running in no time at all.

In this issue of *Full Quieting*, I capture snippets of what we did in September. Photos of our past leadership in an old photo scrapbook we found while cleaning up; move-in day; the Cowan Lake State Park event, "BARC in the Park"; our last membership meeting at our old location; our teams working with electricians to get ample power in the radio room; putting antennas up on the roof. We also revisit DMR radio with a primer to hopefully raise interest in this excellent digital voice mode. I also discuss trials and tribulations to get an antenna to load properly in a mobile setup. All of this plus the usual monthly columns. Sit back, turn up the air conditioning or heat (as appropriate), and enjoy!

One last thing — I would enjoy receiving articles from each and every one of you to publish in *Full Quieting*. The authentic diversity of our club, based on tangible things like our talents and experience, is something valuable worth sharing with each other. Thanks!

73, Ray Hitt, [N8VMX](#)

2024 BARC Officers and Directors

President: Geoff Kline, [KI5VNB](#)

Vice President: Eric Bramini, [KC8OPY](#)

Secretary: Jim Gifford, [N8KET](#)

Treasurer: John Westerkamp, [W8LRJ](#)

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

Junior Director: Don Macon, [KE8WVJ](#)

2024 Coordinators

Antennas: Ray Hitt, [N8VMX](#)

Clubhouse: Jim Lusk, [KC8EFD](#)

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

Contesting: Ken Gunton, [W8ASA](#)

Education: Paul Sharp, [WS8R](#)

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

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

Full Quieting Editor: Ray Hitt, [N8VMX](#)

Hospitality & Librarian: Natinka Siwecki, [KD8NUA](#)

IT: John Westerkamp, [W8LRJ](#)

Lunch Bunch: Jim Totten, [WA8HUB](#)

Net: Paul Sharp, [WS8R](#)

Public Service: Don Parker, [KB8PSL](#)

QSLs: Roger Hoffman, [WB9BXT](#)

Repeater: Russ Roysden, [N8NPT](#)

Tech Night: Bob French, [AC8ZU](#)

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 RadioRoom

St. Pierre Education Center

3757 Upper Bellbrook Rd

Bellbrook, OH 45305

[Map Link](#)

Park in front of building, enter in front-right door.

Conference room: Take first hallway to the left, conference room is on the right.

Member Interviews

BARC wants to hear from you!

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

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

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

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

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



President's Corner

As everyone starts thinking about ghosts and goblins, we've got something even more exciting on our minds, the grand opening of the new BARC Radio Room!

So many of you have pitched in, sharing ideas, hauling gear, installing equipment, that I'd never dare try to list every name for fear of missing someone. Just know that *every* bit of effort, large and small, has brought us to this point. The last contractors have wrapped up their work, antennas are going up, and stations are taking shape. We are still waiting on a few back-ordered items, but our goal is to have the room officially open by the end of this month. We are now completely moved out of the old location and have turned in the keys.

September Highlights

- **Membership Meeting & Raffle:** Thanks to everyone who bought tickets and joined the fun. Congrats to the lucky winners who went home with shiny new gear for their shack!
- **BARC in the Park:** Perfect weather, great turnout, and every POTA activator I spoke with logged a successful activation. Nice work!

October on the Air

- **ARRL School Club Roundup:** October 20–24
- **CQ World Wide DX Contest (SSB):** October 25–26
- **2nd Annual National Sasquatch Awareness Day Special Event:** October 15–21 (a personal favorite)

Keep an eye on your email for the last few volunteer opportunities to help finish the radio room and for details on our open house, coming in late October or early November. We're excited to re-introduce the club to the school community and show everyone what we've accomplished together.

Thanks again for the energy, creativity, and elbow grease that make BARC such a great place to play radio. I can't wait to flip the switch on our new home and watch everyone make their first QSO from the finished room!

73, Geoff, [KI5VNB](#)



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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 Members!

Harold Arata, [KE8VNS](#), Technician

Rose Arata, [KE8WKC](#), Technician

BARC History

Our club goes back to 1974 and we just celebrated our 50th anniversary last year. When cleaning out our old meeting room, we happened across an old photo album. Geoff, [KI5VNB](#), our esteemed president, captured these photos to share with all of you. I may try to get some more of these to share from time to time. See if you recognize Fred Stone [W8LLY](#) (sk) and Henry Bussey [W8TOG](#) (sk).



*Bellbrook Amateur Radio Club
Open House / Scout Jamboree
16 Oct 1976*



What's Up BARC? (continued)

BARC History (continued)



What's Up BARC? (continued)

BARC Move In Day

On Saturday, September 6th, BARC moved out of the old clubhouse into the new clubhouse. There was a lot of help on hand. The moving truck was donated by Emerio KE8JNQ, who also provided the useful accessories like dollies, blankets, and sage wisdom on how to properly move things while not injuring ourselves. That was very valuable for all of us old guys moving things around.

We got all the material moved in just a few hours, very efficiently. We left the unpacking for another time. Thanks to Emerio, Richardo, and the rest of the BARC team that turned up to help!



What's Up BARC? (continued)

BARC Move In Day (continued)



What's Up BARC? (continued)

BARC In The Park—Cowan Lake

On Saturday September 13th, several BARC POTA aficionados set their sights on Cowan Lake State Park (US-1943). We had maybe seven or so stations up and running at the park. Tink brought hot dogs and other fine dishes. There was a fox hunt and Eric tried to use his handheld satellite antenna and portable transceiver to contact other hams through a satellite. Several of us successfully activated at Cowan Lake by making at least 10 contacts. I was able to make 44 contacts using FT-8 and a tiny 3 inch cube Windows-11 computer. This event was a lot of fun, I think we should do something like this more often!



What's Up BARC? (continued)

September's Membership Meeting—A Proper Goodbye to the Old BARC Clubhouse.

On Thursday, September 18th, BARC had its last meeting at the old BARC Clubhouse on 51 S East St. Since almost everything had already been removed from the clubhouse, the meeting was held as a "tailgate" in the parking lot, complete with a Chili cookoff and a raffle of residual club items, donations and gift certificates. I took a last look at the antennas we're leaving behind at the gorgeous sunset. A truly remarkable evening.



What's Up BARC? (continued)

Progress In New BARC Radio Room

September saw a lot of progress in getting the BARC Radio Room ready for use. We repainted, put in shelving, carpeting, Internet/WiFi, and most recently a new 70A electrical panel with outlets servicing all the radio stations, the utility closet, the kitchen area and the test bench. Once we get the radio stations set up and the room cleaned up, we should be ready to go!



What's Up BARC? (continued)

R9 Antenna Install Party

On September 28th, a band of merry men descended on the school to install the Cushcraft R9 Vertical antenna (now a collector's item?). First off, it was *HOT!!!* Thankfully the BARC fridge was stocked with cold water so we could top off our bottles. I didn't count heads, but I think we had 9 show up. We had a team assembling the antenna, another team running guy wires, then we all came together to hoist it up (and down and up and down and up). It's almost tuned up, we will likely need to tweak it a little more to get every last dB out of our radios.

Ken and Stu peeled off to set up the radio stations and then check the R9's performance connected to the IC-7300. Eureka! Thanks everyone for taking part!



What's Up BARC? (continued)

R9 Antenna Install Party (continued)



What's Up BARC? (continued)

R9 Antenna Install Party (continued)



What's Up BARC? (continued)

BARC Swag from Emerio KE8JNQ

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



BARC Swag from Parrot Promo Essentials

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

BARC Mugs from Chris Hanselman, AD8OM

For those of you wanting 20 oz insulated BARC mugs, please contact Chris Hanselman, AD8OM, at deeremt@gmail.com. They are offered in Blue with silver print and Black with copper print. They will keep cold things cold and hot things hot for hours. I use mine almost every day and love it!



Officer, Director, and Coordinator Inputs

Treasurer: John Westerkamp, W8LRJ: BARC members are unbelievable! We have had over \$4000 worth of donations toward our relocation efforts, and I am certain now that we will be financially stable even after we invest in the new clubhouse and antennas. We also raised over \$1000 from equipment sales and the raffle with BARC members getting some great equipment deals.

Thanks to your generosity, we were actually cash flow positive for September! We still have expenses for the electrical work and the hexbeam antenna, but BARC is in great financial position as our club enters a new chapter. Thank you to everyone at BARC!

Repeater: John Westerkamp, W8LRJ: Huge thanks to Eric Bramini, KC8OPY, and his company for providing a cellular data hotspot for Internet access at the repeater site. All of our BARC repeater services are back on-line including Allstar, EchoLink, and Wires-X. We now control the Internet access at the site and should be able to resolve any issues quickly in the future. Thank you very much for your patience!

Website: John Westerkamp, W8LRJ: The Air Force Marathon was a fantastic day and really tests our ability to work communications during an important event. Kudos to all who supported the marathon. We also had a great time at the Cowan Lake Dxpedition and enjoyed time on the radio together as well as a club social. And, yes, the great BARC food was a highlight, as always! Keep an eye on the website as we finally open the new clubhouse for the upcoming Contest season and a hold an Open House to show it off!

Communication Center: John Westerkamp, W8LRJ: The ad hoc Clubhouse Committee is continuing to prepare the radio room at our new location. The big move on Saturday, September 6 was a huge success thanks to all the volunteers who showed up to pack, move, and unpack at the new clubhouse. We currently have a new tower installed with a dual band antenna as well as the mount for the R9. The electrician is updating the outlets and circuit breaker as I type. A hexbeam and EFHW antenna are on order. We hope to have all the new antennas up and operational before the cold weather sets in.

BARC Net Manager: Paul Sharp, WS8R: Every Sunday at 8:00 PM you can listen to and participate in the exciting BARC Net, on 147.045. For the 4 weeks in September 2025 there were approximately 76 check-ins lasting 210 exciting and informative minutes. Topics ranges from Open Mike, Parks on the Air, plans for Labor Day, what tool do you like best, USAF Marathon, BARC chili dinner and BARC in the Park, what do you like about ham radio, lots of discussion about our move from the old club house to the new club house, and the installation of the R9 antenna on the roof .

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

Antenna Committee: Ray Hitt, N8VMX: Held another Committee meeting and finalized details for the hexbeam, R9, and end-fed half-wave (EFHW) antennas. Drafted a formal Antenna Plan for the school to keep on file. Formed a work crew to install the antenna tower for the dual band APRS/BAR repeater and hex beam antennas. Formed another work crew to install the R9 vertical antenna. Awaiting hex beam (back order) and EFHW antennas. Planning on installing at least two mast poles for 2m/70cm dual band antennas for generic station use.



BARC October 2025 Event Calendar

Thu October 2, 2025

7pm Planning Meeting Where: New BARC Clubhouse Conf Rm

Sat October 4, 2025

12pm POTA SIG Where: Sackett Wright Shelter 1

Sun October 5, 2025

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

Sun October 12, 2025

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

Tue October 14, 2025

11:15am Lunch Bunch Where: Roosters Wings

Thu October 16, 2025

7pm Membership Meeting Where: New BARC Clubhouse Conf Rm

Sun October 19, 2025

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

Wed October 22, 2025

7pm Tech Night Where: BARC Clubhouse Radio Room

Thu October 23, 2025

7pm Dessert and Movie Night Where: BARC Clubhouse Conf Rm

Sun October 26, 2025

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

Tue October 28, 2025

11:15am Lunch Bunch Where: Butterbee's



BARC Movie and Dessert Night



We have just **ONE** BARC Movie & Dessert Night left in 2025!

Date	Movie	Genre
October 23, 2025	Mission Impossible: The Final Reckoning	Action

Past movies and Desserts:



January 23, 2025	Harvey (1950)	Carrot Cake & Carrots
February 27, 2025	Edge of Tomorrow (2014)	Macarons, Cheese cake
March 27, 2025	Paul, Apostle of Christ	Angel food cake & Holy Donuts
April 24, 2025	Jurassic World: Dominion	Dinosaur eggs & ice cream sundaes
May 22, 2025	Twisters (2024)	Pound cake with fruit & a twist of whipped cream
June 26, 2025	Fly Me to the Moon (2024)	Moon Pies & Chocolate Moon Rocks
July 24, 2025	Witness (1985)	Fruit Pies
August 28, 2025	Captain Ron (1992)	Life Preservers
September 25, 2025	The Great Outdoors	Cheese cake, Cupcakes, Pumpkin roll



Due to technical difficulties we watched *The Great Outdoors* for our September movie night. **Mission Impossible: The Final Reckoning** will be on the big screen in October. Because we are still setting up the new radio room the movie night will be held in the large meeting room at our new BARC Clubhouse location.

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

We'll see you in October at the Movies!

Tink
KD8NUA



Lunch Bunch

Jim Totten, [WA8HUB](#)

Hello my fellow lunch lovers. September 2025 is just about over. It is time to renew our lunch meetings for this new month, **October 2025**. 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 *Full Quieting* listing our current set of restaurants. The **October** restaurants are highlighted. I updated all of the dates for all of the restaurants on our list. The list is now into 2026. This published list is the order we will select each lunch day. You now know what the whole order is and know what's coming next.

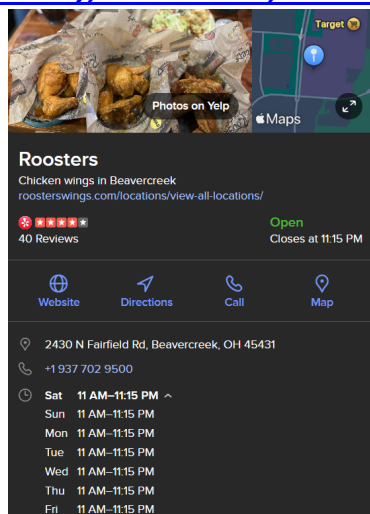
How did we do in September? On September 9, 2025 we had lunch at First Watch in the Cornerstone Complex. The menu is very unusual but everything is tops. We had either 10 or 11 hungry folks. Connie talked me into trying a salad called Sweet Honey Pecan. We got a smaller portion with soup—**outstanding**. Our next adventure was supposed to be The Submarine House, the one located near Marion's Piazza on N. Fairfield Rd. The original date was September 23, 2025. I got the call out late and most of the stalwarts couldn't make that date. As all good hams can do we rescheduled to September 30, 2025. Obviously I will not be able to report the results of our lunch in this article except we can all agree the food here is great. Aftermath report in November.

Now for the **October** offerings. October 14, 2025 we will have lunch at **Roosters Wings**, 2430 N. Fairfield Rd. (The Shoppes at FC) Beaver Creek, OH 45431, (937) 702-9500. The name says Wings but the menu is much broader. Something for everyone. October 28, 2025 lunch is at **Butterbees**, 217 Progress Dr., Xenia, OH 45385, (937) 352-6504. A quote from a luncher: "It's all good; from their ribs, steaks, pork chops, chicken, burgers; baked potatoes; even their coleslaw is tasty." Historical note: We went to Butterbees in lieu of Golden Corral when they got squirrely. {editor—long story for another time}

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

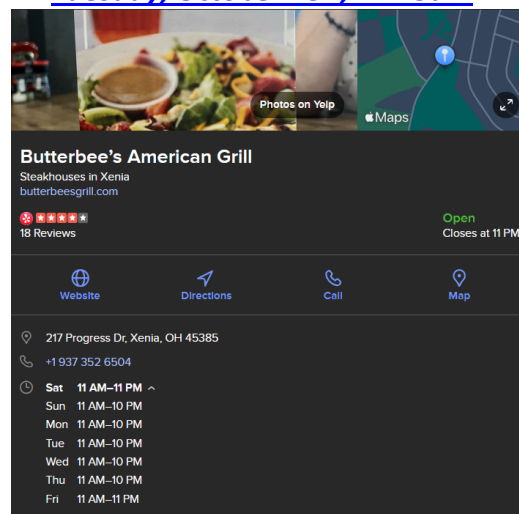
73, Jim [WA8HUB](#)

Tuesday, October 14th, 11:15am



Click pictures or hyperlinks
for more info and maps

Tuesday, October 28th, 11:15am



(Continued on next page)

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Lunch Bunch List

Jim Totten, [WA8HUB](#)

Date	Restaurant	Address	City	Phone Number
07/22/25	Cherry House Cafe	1241 Meadow Bridge Dr	Beavercreek, OH 45434	(937) 320-6200
08/12/25	Another Broken Egg Cafe 7:00 am to 2:00 pm	2453 Esquire Dr.	Beavercreek, OH 45431	(937) 912-5074
08/26/25	China Garden Buffet	112 Woodman Dr. Airway Shopping Center	Dayton, OH 45431	(937) 781-9999
09/09/25	First Watch 7:00 am to 2:30 pm	5245 Cornerstone North Blvd	Sugarcreek Twp, OH 45440	(937) 732-9013
09/30/25	Submarine House	3195 Dayton-Xenia Rd.	Beavercreek, OH 45434	(937) 429-8650
10/14/25	Roosters Wings	2430 N. Fairfield The Shoppes at FC	Beavercreek, OH 45431	(937) 702-9500
10/28/25	Butterbee's	217 Progress Dr.	Xenia, OH 45385	(937) 352-6504
11/11/25	Shawarma Grill	2844 Colonel Glenn Hwy	Fairborn, OH 45324	(937) 429-4959
12/09/25	Chic-Fil-A	5301 Cornerstone N Blvd	Sugarcreek Township, OH 45440	(937) 439-1700
01/13/26	Culp's Cafeteria	1000 Carillon Blvd	Dayton, OH 45409	(937) 293-2841
01/27/26	City Barbecue	2001 E. Dorothy Lane	Kettering, OH 45420	(937) 200-1006
02/10/26	Marion's Piazza	1320 N Fairfield Rd.	Beavercreek, OH 45432	(937) 429-3393
02/24/26	Red Robin	2671 Fairfield Commons Blvd.	Beavercreek, OH 45431	(937) 320-9800
03/10/26	Beavercreek Pizza Dive	4021 Dayton-Xenia Rd.	Beavercreek, OH 45432	(937) 431-8669



DMR Nets

Jim Totten, [WA8HUB](#)

Look at the title of this little treatise. The question is “what are DMR nets?” Maybe the first and better question is “what is this thing called dmr?”. No that is not correct, there is nothing called “dmr”, instead there is something called “DMR”. The usual assumption with a capitalized series of letter, you are represented a statement or title. And – You are correct, DMR stands for Digital Mobile Radio. In amateur radio this is one of the digitized voice modes used. It is not alone.



If there are others, what are they, any limitations, are they owned? The first is one called D-Star. This mode was invented/developed by amateurs in Japan. **D-STAR (Digital Smart Technologies for Amateur Radio)** is a digital voice and data protocol specification for amateur radio. The system was developed in the late 1990s by the Japan Amateur Radio League and uses minimum-shift keying in its packet-based standard. There are other digital modes that have been adapted for use by amateurs, but D-STAR was the first that was designed specifically for amateur radio and is licensed for use by Icom and Kenwood Radios. The other popular digital mode is owned by Yaesu Radio and is called either System Fusion or C4FM.

Digital Mobile Radio (DMR) is a digital radio standard developed by the European Telecommunications Standards Institute (ETSI) that facilitates voice and data transmission in non-public radio networks. It was introduced to provide a more efficient and cost-effective alternative to traditional analog radio systems.

DMR is an open standard for digital mobile radios that uses Time Division Multiple Access (TDMA) technology. This allows multiple users to share the same frequency channel by dividing the signal into different time slots. DMR is divided into three tiers:

Tier I: Unlicensed conventional use, suitable for personal or small business applications.

Tier II: Licensed conventional use, aimed at users who need spectral efficiency and advanced voice features.

Tier III: Trunked systems, which provide managed voice and data solutions for larger organizations.

DMR operates within the 12.5 kHz channel spacing used in land mobile frequency bands globally. It uses two-slot TDMA technology to provide two voice channels within the same channel space, enhancing channel efficiency and reducing spectral occupancy.

How Does DMR Work?

DMR converts voice into digital signals using the AMBE+2 vocoder, allowing for clearer audio quality and efficient use of the radio spectrum. The use of TDMA divides each frequency into two distinct time slots, enabling two separate conversations on the same frequency simultaneously. This is particularly beneficial in crowded radio environments, as it maximizes the available bandwidth.



DMR Nets (continued)

DMR is used by a wide range of users, including:

Public Safety Agencies: Police, fire, and emergency services utilize DMR for reliable and secure communication.

Commercial Enterprises: Industries such as transportation, utilities, and manufacturing use DMR for efficient communication and coordination.

Amateur Radio Operators: DMR is popular among ham radio enthusiasts for its ability to connect users worldwide via internet-linked repeaters and hotspots. Amateur radio operators use DMR to participate in global networks and talkgroups, enabling communication across vast distances.

Benefits of DMR

Improved Voice Quality: DMR provides clearer audio compared to analog systems, reducing background noise and improving communication clarity.

Enhanced Functionality: DMR supports additional features such as data transmission, location tracking, and text messaging, making it a versatile communication tool.

Security: DMR offers encryption options, ensuring secure communication channels for sensitive information.

Interoperability: As an open standard, DMR allows for interoperability across different manufacturers' equipment, preventing users from being locked into proprietary solutions.

Summary

Digital Mobile Radio (DMR) represents a significant advancement in radio communication technology, offering improved efficiency, functionality, and security over traditional analog systems. Its versatility and wide range of applications make it a valuable tool for both professional and amateur users, providing a reliable means of communication in various settings. As technology continues to evolve, DMR remains a robust and adaptable solution for modern communication needs.

I owe the source of this explanation of DMR to the “OneSDR—A wireless Technology Blog” which can be found at <https://www.onesdr.com>.

73, Jim [WA8HUB](#)



Getting an Antenna to Defy Physics

Ray Hitt, [N8VMX](#)

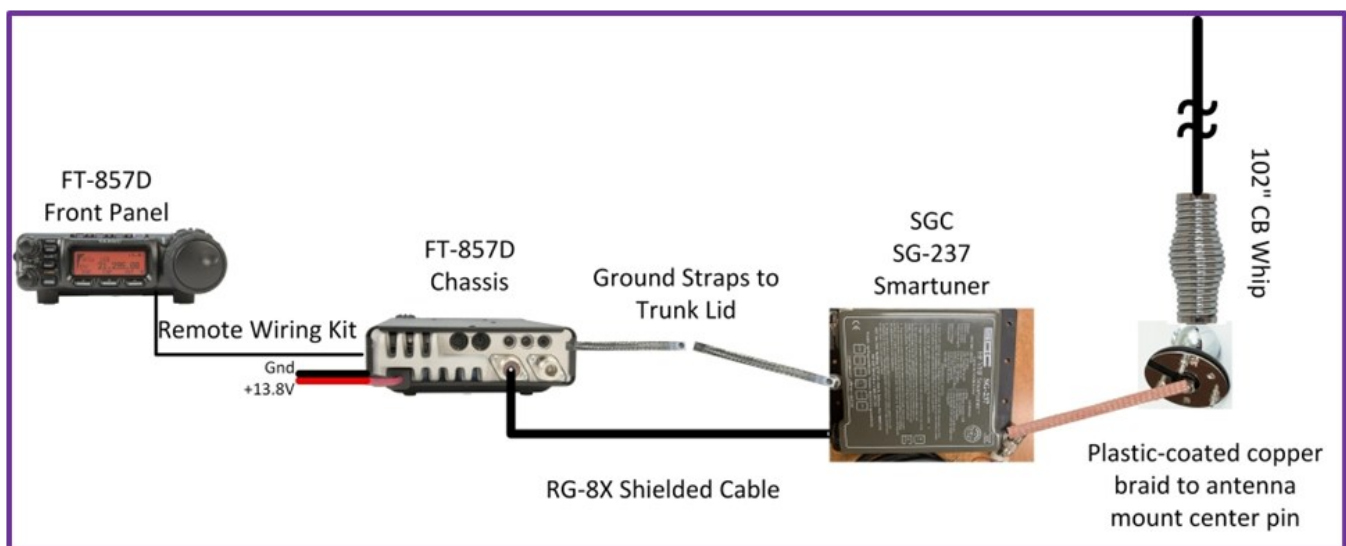
I've owned a 102-inch CB whip for a long time and got it just for the HF Amateur Bands. It's even older than my 2015 Ford Fusion; I used it on my 1996 Saturn SL-II and my 2000 Saturn SL-II. I noticed that I have more issues operating HF in my Fusion than I ever had with the two Saturs I drove. In the Ford Fusion, there's strong computer clock and fuel injector noise creeping around in the HF band. I've largely ignored these problems and operated while parked only or unfortunately avoided using HF altogether. I've put off fixing this for years until now.



Recently while on a POTA activation at Caesar Creek State Park (US-1940), I couldn't load my CB-whip at all on the 40m band. When thinking about it, I couldn't remember if I had ever loaded on 40m with this antenna on this car, maybe instead remembering about using this antenna on my Saturn on both 40m and 80m. So, now, I am looking into how to get this antenna to "defy physics" and load on 40m even though it is designed for 11m.

Since my Saturs are long gone, along with all the tech data, I will focus on the Fusion. I do recall the trunk lid surface area was larger on the Saturn than the Fusion, but not by a large amount. Perhaps the Saturn had better ground bonding between the trunk area and the rest of the body and frame. That is something I am going to experiment with.

Background: The HF installation consists of a trunk-mounted FT-857D (2006 vintage) 100W HF/2m/70cm all-mode radio, around 6-feet of RG-8X connected to an SGC-237 coupler (i.e. tuner), a short length of RG-8 braid surrounded by plastic fuel line tubing running to the antenna base center conductor. The SGC-237 has a terminal for a grounding strap which is running to a trunk-lid ground connection. The top side (above the trunk lid) consists of a 6-inch spring, a bayonet quick disconnect, and a 102" stainless steel whip.



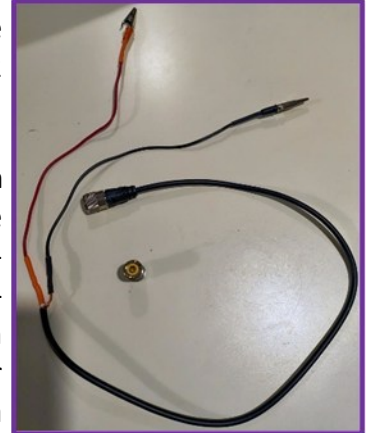
Getting an Antenna to Defy Physics (continued)

To operate this system, the SGC coupler needs to find an impedance match at the desired frequency. It automatically detects RF energy and runs an algorithm switching in inductance and capacitance to attempt to match the antenna. I usually switch to AM mode to then press the mic and send a carrier only at a 5-10 W power level which should be enough to trigger the tuning process. It settles into a suitable match after a few seconds for the first time on that frequency, or a few milliseconds if a match is stored from the last time that frequency was visited – unless the antenna impedance is out of bounds where no inductance or capacitance can correct for it.

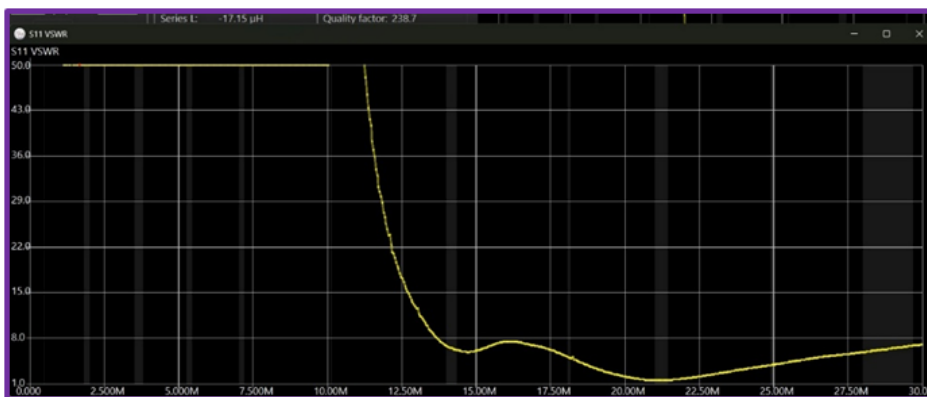
The specifications for the SGC-237 claim that it can match an 8-foot wire to as low as 3.3 MHz, so the fact I can't match an 8.5-foot antenna to 7.2 MHz indicates that I have a problem somewhere.



Baseline: Before I make any design changes, I needed to measure the current performance and then measure again after making some changes. To do this, I needed to detach the antenna from the SGC coupler and measure the isolated antenna with a NanoVNA. Here's a picture of the short cable I made from an old RG-58 jumper cable. I attached 12" leads with alligator clips to one end. The leads had to be this long to reach the center terminal braid and ground braid in the trunk. Adding this cable will lower the resonant frequency measurement somewhat, so that must be factored in.



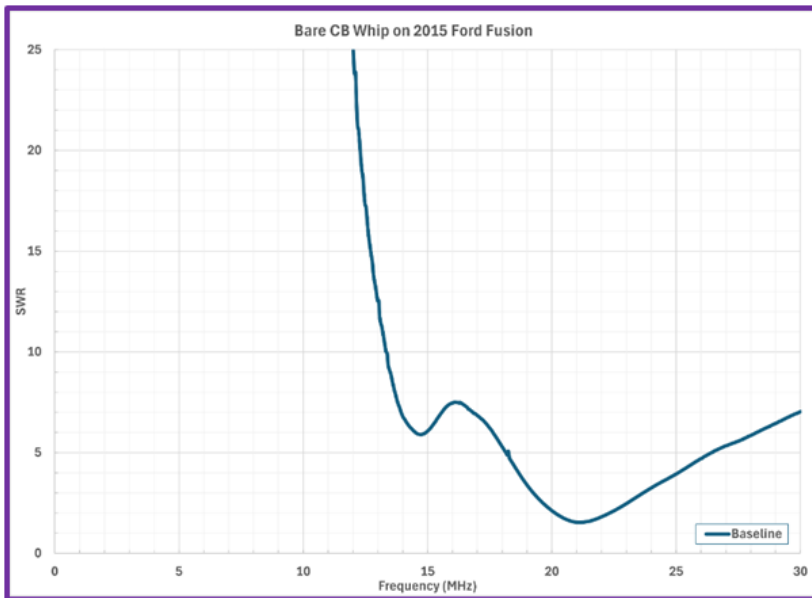
I connected this jumper cable to an 8-foot RG-8 cable with 8-inch RF chokes on each end. This will help keep this jumper cable from further corrupting the readings. I then connected a short SMA to SO-237 adapter cable to my Nano VNA, connected to NanoVNASaver app on my PC.



Here's the NanoVNA screen capture from the NanoVNASaver program. It confirms that I can tune this antenna on the 20m and higher bands. Below around 12MHz, the VSWR quickly goes to infinity (set at 50:1 on this graph to make it readable). See the Excel chart on the next page of the same data – it's easier to read.

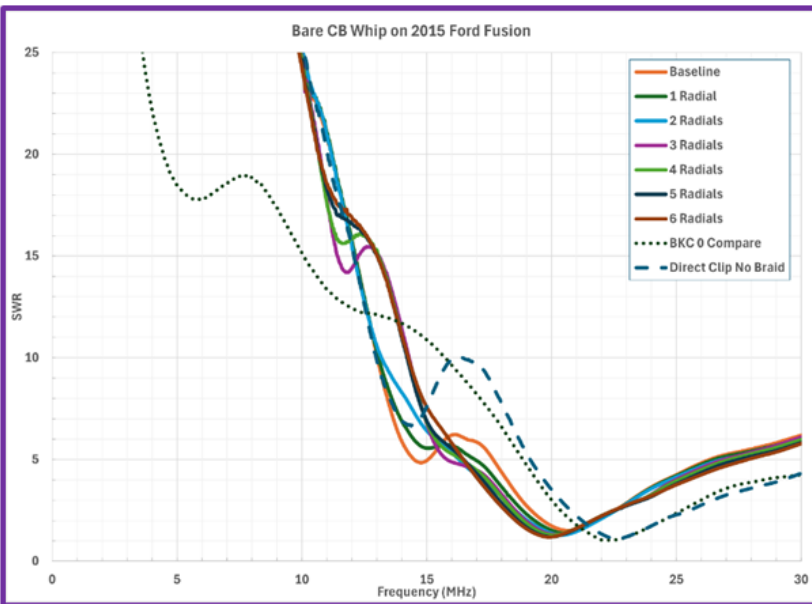


Getting an Antenna to Defy Physics (continued)



Adding Radials: Before drilling into my car and adding ground straps, I wanted to see if the ground could be improved by adding ground radials. I have six 33-foot radials on hand from my Big Kansas Coil kit, so I attached them to the ground strap and fanned them out around the car.

I conducted several measurements using the NanoVNA. Adding to the baseline measurement (above), I added 1,2,3...6 radials. The results of this are shown in Figure x. I also superimposed the measurement from the Big Kansas Coil / faraday cloth measurements as a comparison.



Looking at the graph, aside from its messiness, in general, the radials didn't do anything to help the antenna much if at all. The antenna mounted on a Big Kansas Coil tripod over a faraday cloth (even with the coil bypassed) was much better in comparison. So, maybe there is something wrong with the ground. Another thing to look at is whatever coupling exists in the trunk between the wire running to the center conductor of the mast mount and the trunk lid.

Changing wire from SGC coupler to antenna mount:

To try to reduce coupling between the antenna hot lead and the trunk lid where it attaches to the antenna mount, I replaced the shielded ground strap with a simpler 8" section of 14AWG wire. This has a much smaller diameter than the RG-8 shield inside of a 1/2" plastic gas line that I was using before.



Getting an Antenna to Defy Physics (continued)

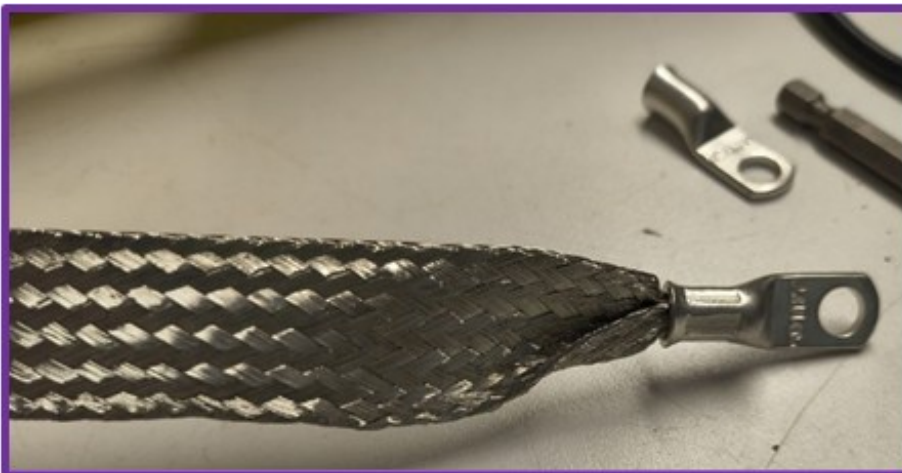
Adding Ground Straps: When I examined the ground straps used for the FT-857D chassis and the ground terminal of the SG-237 coupler, I saw that the connections to ground were not very good. I used self-tapping screws which worked for a while but loosened over time and can't be tightened enough to provide for a good ground. This poor ground was what was used for the antenna plots seen before, so perhaps improving the ground would help – it certainly wouldn't hurt.

Researching on the Internet, I came across "Rivet Nuts". These are inserts made of a softer metal meant to be inserted into a hole, connected to a tool ([like this one](#)) that pulls on the insert from the back side, crushing it into the metal and creating a firm attachment point for a regular machine screw that can be tightened very tight. I used M5 (5mm) size inserts and hex head screws to attach my ground straps. This picture shows two attach points, one to my SBC coupler, the other to a ground strap connecting the trunk lid to the car frame.



You don't need to buy an expensive tool to use rivet nuts. I saw YouTube videos describing multiple ways to install them using common wrenches, nuts and washers. ([Link](#))

Expanding on that point, I concluded that the trunk lid area (where the 102-inch whip is mounted) has a smaller surface area than what I recall from my Saturn SL-II. Perhaps connecting two or three ground straps between the trunk lid and the car frame would improve the ground. Even if metallic pieces are connected, cars are heavily primed, painted and rust-proofed which defeats the electrical contact between these pieces. Running a dedicated ground strap between two metal pieces that have had the coatings stripped away should help.



I created ground straps from 1-inch RF braid. Doing some research, I determined that 4 AWG lugs are the right size to crimp to the RF braid. I then added heat shrink tubing to protect the ground braids from weathering.

I might add a third ground strap in the center of the trunk lid. But for now, here is a look the two straps I attached for an initial test in the trunk of the Ford Fusion (next page).

Getting an Antenna to Defy Physics (continued)

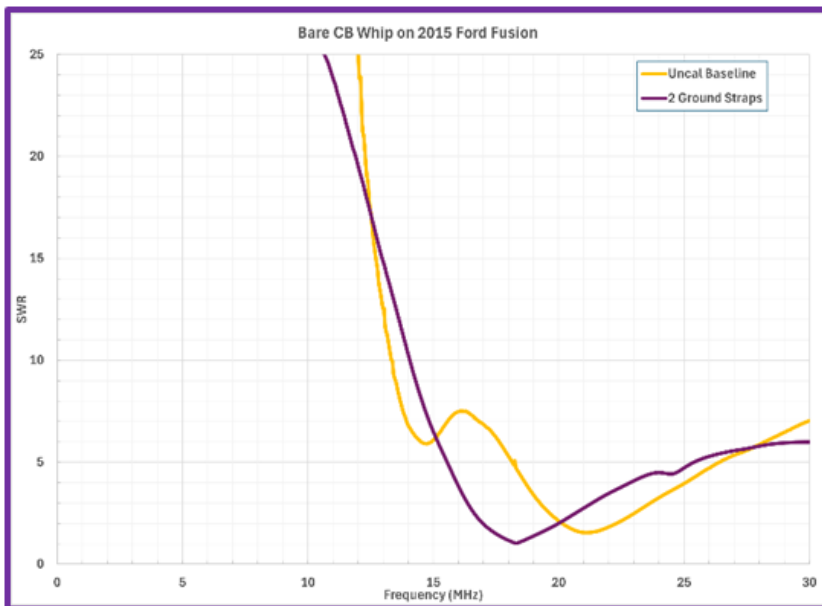


Testing the Improved Grounding: The first test was the easy one; will my FT-857D load up on 40m now? Firing up my FT-857D, setting to low power, transmitting an AM carrier to trip the SGC coupler's tuning action, and... it tuned up! Moving around 40, 30, 20, 17, 15, 12, and 10m, I was able to tune anywhere in all these bands. Tuning on 80m is still a challenge. So, the next step will be to see if there are any additional points on the car body where I could attach ground straps to improve the grounding – ideally the entire car would be a low resistance RF ground when I am done.

I then connected my NanoVNA and swept VSWR from 2-30 MHz. Here's the plot it generated. The SWR is not significantly different than before which leads me to think that improving the grounding between the SGC coupler and the trunk and the FT-857D and the car chassis had more of an impact than the grounding on the antenna itself.

As these grounds are all installed and shown to be working, I need to prime and paint over the connections so that I don't get corrosion on these areas where the coatings were stripped off to make good electrical contact. Now I'm off to research where to attach additional ground straps on the car frame to be able to load 80m again. I can dream!

73, Ray [N8VMX](#)



Special Event Stations for October

Paul Sharp, [WS8R](#)

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

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

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

Here is my pick of the litter of SES that I think will be of interest to my fellow BARC members. We hit the lottery this month with many exciting SES. There are SES commemorating: Elmers, US Navy's 250th Birthday, Columbus Day, Eisenhower's Birthday, Mashed Potato Day, and The War of the Worlds.

- **10/03/2025 | Elmer Appreciation Day.** Oct 3-Oct 5, 0000Z-2359Z, W1E,W3E,W4E, Prospect, CT. KB1FGC. 7.040 14.040 21.040. QSL. Richard Guerrera, 19 Terry Rd, Prospect, CT 06712. <https://www.qrz.com>
- **10/04/2025 | 2025 Pumpkin Fest.** Oct 4, 1300Z-2000Z, W0CWP, Anamosa, IA. Jones County Amateur Radio Club. 7.200 14.250 18.150 21.300. Certificate. Ron Hendricks, 828 W. 8th St., Monticello, IA 52310. <https://www.facebook.com/groups/151772133772>
- **10/04/2025 | US Navy's 250th Birthday.** Oct 4-Oct 19, 1400Z-2359Z, NI6BB, San Pedro, CA. Battleship Iowa Amateur Radio Association. see website for list of frequencies; modes will be at the discretion of the operator. QSL. See website, for, information. biara.org
- **10/06/2025 | FRVA-ARC Fall Rally.** Oct 6-Oct 10, 1700Z-1800Z, WE4RV, Paducah, KY. Family RV Association Amateur Radio Chapter. 14.265 14.060 7.060 7.240. QSL. John Bechtoldt, 1418 S. Yale Drive, O Fallon, IL 62269. Check DX Cluster for spotting information throughout event. www.frvaarc.com
- **10/10/2025 | Celebrating 86 Years United States Coast Guard Auxiliary Serving the Coast Guard and America.** Oct 10-Oct 12, 2259Z-2359Z, N2S, Cape May, NJ. United States Coast Guard Auxiliary. 14.310 7.250 18.200 VHF. Certificate. Mike Slepian WB2LKO, 12 Continental Lane, Marlton, NJ 08053. Operating from a historic, former Coast Guard Station in Cape May, NJ, home of United States Coast Guard basic training. Commemorate 86 years of United States Coast Guard Auxiliary augmenting the Coast Guard, through patrols, watch standing, culinary service and enhancing the safety and security of our ports, waterways and coastal regions. Highlight the Auxiliary's Boating Safety Mission and the many other ways we support the Coast Guard. www.cgaux.org



Special Event Stations for October (continued)

- **10/10/2025 | Continental Navy Birthday.** Oct 10-Oct 14, 1300Z-0400Z, WM3PEN, Philadelphia, PA. Holmesburg Amateur Radio Club. 14.276 7.250. QSL. Holmesburg Amateur Radio Club, 3341 Sheffield Ave, Philadelphia, PA 19136. wm3pen.org
- **10/11/2025 | 234th Anniversary of Columbus Day.** Oct 11-Oct 13, 0000Z-2359Z, NJ2KC, Bridgeton, NJ. New Jersey Knights of Columbus Amateur Radio Club. 7.234 14.234 21.234 29.234. Certificate & QSL. NJ2KC C/O Thomas M. Perrotti, 785 Vineland Ave, Bridgeton, NJ 08302-4822. NJ2KC.org
- **10/11/2025 | Ike Eisenhower's Birthday.** Oct 11, 1330Z-2100Z, K3S, Port of Baltimore, MD. Nuclear Ship Savannah Amateur Radio Club. 7,14,18,21,28. QSL. Ullis Fleming, 980 Patuxent Rd, Odenton, MD 21113. Check spotting networks for frequency. See QRZ.com info for Savannah Award
- **10/11/2025 | US Navy Birthday.** Oct 11, 1600Z-2300Z, NI6IW, San Diego, CA. USS Midway Museum Ship. 14.320 7.250 14.070 PSK31 DSTAR on Papa System Repeaters. QSL. USS Midway Museum Ship COMEDTRA, 910 N Harbor Drive, San Diego, CA 92101. www.qrz.com/db/ni6iw
- **10/13/2025 | US Navy Birthday.** Oct 13-Oct 14, 1000Z-0300Z, K9NBH, Salem, WI. Great Lakes Radio Club. 7.225 14.250. Certificate. Great Lakes Radio Club, General Delivery, Salem, WI 53168. Celebrating the establishment of the US Navy in 1775. See K9NBH QRZ page for additional event details. Digital certificate available. No paper certificate or QSL cards. <https://www.qrz.com/db/K9NBH>
- **10/18/2025 | ARRL DAY IN THE PARK.** Oct 18, 1400Z-1900Z, W5PFC, Ridgeland, MS. Jackson Amateur Radio Club. 146.640- 77hz tone. Certificate. James
- **10/18/2025 | National Mashed Potato Day.** Oct 18, 1500Z-2200Z, W9P, Plover, WI. Central Sands Amateur Radio. 14.320MHz 40m depending upon band cond. 15M band conditions . QSL. Phil Schobert, 300 Polk St, Stevens Point, WI 544815841. Celebrating National Mashed Potato Day from the World's Largest Potato Masher located at the Food and Farm Exploration Center. CSARC2022@gmail.com



Special Event Stations for October (continued)

- **10/18/2025 | Yorktown Special Event Station.** Oct 18, 1400Z-2000Z, K4RC, Williamsburg, VA. Williamsburg Area Amateur Radio Club. 7.265 14.265. Certificate. QSL Manager, WAARC, P.O. Box 1470, Williamsburg, VA 23187. Celebrating the 244th anniversary of the British surrender to the joint American and French forces under Gen. George Washington in Yorktown, VA. This ended the American Revolutionary War on October 19, 1781. For QSL send your QSL and SASE to QSL Manager, WAARC, PO Box 1470, Williamsburg, VA 23187. The Virginia Historic Triangle Certificate is available for working the Jamestown, Williamsburg, and Yorktown Special Event Stations. You don't need to make these contacts in the same calendar year. For a Certificate send QSO info from the three stations to qslmgr@k4rc.net. Event info: <https://www.k4rc.net/events/special-event-stations> <https://www.k4rc.net>
- **10/26/2025 | WOW War of the Worlds Special Event Station.** Oct 26, 1600Z-2100Z, WOW, West Windsor, NJ. Delaware Valley Radio Association. 7225 14255 21300. QSL. WOW DVRA, P.O. Box 7024, Trenton, NJ 08628. To commemorate the anniversary of Orson Welles' infamous 1938 War of the Worlds Halloween broadcast, members of the Delaware Valley Radio Association will gather at Grovers Mill, NJ site of the fictional Martian landing, to set up a temporary radio station and communicate with other ham radio operators around the world. <https://www.w2zq.com>



Answers to Amateur Radio Test Questions on pages 28-30

[Technician \(pg 30\)](#)

T8D11 (C)
T9B03 (A)
T7B09 (D)
T4A08 (D)

[General \(pg 31\)](#)

G1D10 (B) [97.509(b)(2)]
G4D06 (A)
G6A08 (D)
G7C01 (B)

[Amateur Extra \(pg 32\)](#)

E6A10 (B)
E3C11 (C)
E4B04 (A)
E8C02 (C)



Amateur License Test Questions

Answers are on [page 29](#)

Technician

T8D11

What is an ARQ transmission system?

- A. A special transmission format limited to video signals
- B. A system used to encrypt command signals to an amateur radio satellite
- C. An error correction method in which the receiving station detects errors and sends a request for re-transmission
- D. A method of compressing data using autonomous reiterative Q codes prior to final encoding

T9B03

Why is coaxial cable the most common feed line for amateur radio antenna systems?

- A. It is easy to use and requires few special installation considerations
- B. It has less loss than any other type of feed line
- C. It can handle more power than any other type of feed line
- D. It is less expensive than any other type of feed line

T7B09

What should be the first step to resolve non-fiber optic cable TV interference caused by your amateur radio transmission?

- A. Add a low-pass filter to the TV antenna input
- B. Add a high-pass filter to the TV antenna input
- C. Add a preamplifier to the TV antenna input
- D. Be sure all TV feed line coaxial connectors are installed properly

T4A08

Which of the following conductors is preferred for bonding at RF?

- A. Copper braid removed from coaxial cable
- B. Steel wire
- C. Twisted-pair cable
- D. Flat copper strap

(Continued on next page)



Amateur License Test Questions (continued)

Answers are on [page 29](#)

General

G1D10

What is the minimum age that one must be to qualify as an accredited Volunteer Examiner?

- A. 16 years
- B. 18 years
- C. 21 years
- D. There is no age limit

G4D06

How much change in signal strength is typically represented by one S unit?

- A. 6 dB
- B. 12 dB
- C. 15 dB
- D. 18 dB

G6A08

Which of the following is characteristic of low voltage ceramic capacitors?

- A. Tight tolerance
- B. High stability
- C. High capacitance for given volume
- D. Comparatively low cost

G7C01

What circuit is used to select one of the sidebands from a balanced modulator?

- A. Carrier oscillator
- B. Filter
- C. IF amplifier
- D. RF amplifier



Amateur License Test Questions (continued)

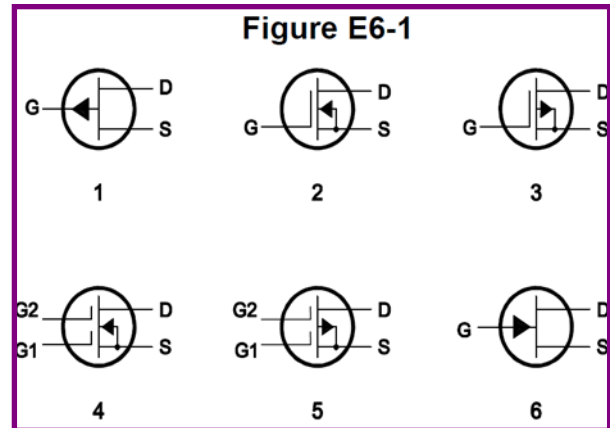
Answers are on [page 29](#)

Amateur Extra

E6A10

In Figure E6-1, which is the schematic symbol for an N-channel dual-gate MOSFET?

- A. 2
- B. 4
- C. 5
- D. 6



E3C11

What does VOACAP software model?

- A. AC voltage and impedance
- B. VHF radio propagation
- C. HF propagation
- D. AC current and impedance

E4B04

Which S parameter represents input port return loss or reflection coefficient (equivalent to VSWR)?

- A. S11
- B. S12
- C. S21
- D. S22

E8C02

What is the definition of symbol rate in a digital transmission?

- A. The number of control characters in a message packet
- B. The maximum rate at which the forward error correction code can make corrections
- C. The rate at which the waveform changes to convey information
- D. The number of characters carried per second by the station-to-station link

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.



Miscellaneous BARC Info

REGULARLY SCHEDULED NETS

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

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

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

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

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

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

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

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

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

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

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

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

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

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

ZOOM-Basic Setup & Configuration

Here's a link to the Zoom Video Tutorials: [Zoom how-to video tutorials – Zoom Help Center](#)

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

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

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

