



April 2024  
Our 105th Year  
Volume 62, Issue 4

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Website:

<http://www.mvara.org/>

*The Voice Coil*  
Newsletter of the  
Mahoning Valley Amateur  
Radio Association  
Established 1919

## Prez Sez

We recently were out of town for bike week down in Daytona FL when our fun-filled vacation became a nightmare. Our truck decided to give up the ghost and left us in the lurch down in Florida. What to do?

After flying Cindy home, I started the two-week quest to find a new truck. On the way home I got to thinking and looking where I could mount a radio without messing up the look of the truck.

I want to put in a radio but they leave so little room to mount under the dash and I really don't want it in plain view. Guess I will have to ponder it some more.

Coming up on the 27<sup>th</sup> of April is NVIS Day and I sure would like to see all of you out at Harry Meshel picnic area located at 590 Milton Ave, Lake Milton.

We usually get between three to five radios and eight to ten of our club members working radios and having fun. I hope to see you all there.



## Are We There Yet?

It's 57 days away—2024 Field Day.

Field Day is ham radio's open house, contest, and emergency exercise. Every June, more than 40,000 hams throughout North America set up temporary stations in public places to demonstrate ham radio's science, skill and service to our communities and our nation. Field Day has been an annual event since 1933, and remains the most popular event in ham radio.

We need **you** to participate.

Join the Field Day Committee and get involved.

## Meeting Location:

April 11, 2024, 7pm  
GOP Headquarters  
8381 Market St.  
Boardman, OH 44512



## 2024 Officers

**President:** Scott Wilton, KE4UHC

**Vice President:** Dave Brett,  
KD8NZF

**Secretary:** Doug Sage, KB8TPG

**Treasurer:** Nancy Brett, KD8QNY

**Trustees:**

Joe Vasko, N8SEJ (2)

Richard Bouvia KT3GOD (2)

John Morris WM8B (1)

Nik Johnson K5NIK (1)

**Newsletter Editor:** Mark  
Haverstock, K8MSH (.167)

**Awards Manager:** Dave Fairbanks,  
N8NB, 330.501.5031, 4770 Logan  
Ave. Youngstown, OH 44505

The Mahoning Valley Amateur Radio Association, Inc, meets the second Thursday of every month. Location and time are subject to change. Dues are \$20.00 per year, \$10.00 each for additional family member. Contact Nancy, [nanceanne34@gmail.com](mailto:nanceanne34@gmail.com) for details.

The club call is **W8QLY**; equipment operated under this call includes a two meter voice repeater at 146.745 (-600, 110.9 PL). Club email: [mvara.w8qly@gmail.com](mailto:mvara.w8qly@gmail.com)

MONDAY NIGHT NET operates every Monday at 9:00. PM on 146.745 MHz.

SKYWARN NET - First Wednesday of the month at 8:30 PM on 146.745 MHz as weather warrants.

ARES NET- First and third Mondays of each month at 8:30 PM on 146.745 MHz; prior to the Monday Night Net.

# If we can get all the parts to MESH

Our April speaker is club member Rob Dunham, KE8OKO. Rob is heavily involved in data communication professionally so it is natural that he has an interest in that side of Ham Radio. In this case he will be talking about AREDN, the Amateur Radio Emergency Data Network.



The AREDN Project is a national effort to provide data services using Amateur Radio frequencies.

AREDN makes use of special provisions in Part 97 that allow channels on 2.4GHz, 3.4GHz, and 5.8GHz that are ham exclusive. You probably recognize the 2.4GHz frequency as that used by WIFI routers. But normal WIFI is governed by Part 15. By moving to the Part 97 channels much of the interference from home routers is avoided.

Rob will fill us in on the equipment needed and applications such as Telephone, Video, Keyboard to Keyboard, Mapping, and file sharing via AREDN. Mark your calendar for April 11<sup>th</sup> and join us for this informative look at AREDN.



**License Refresher:**

Answers: E9C01 (D) E9C02 (A) G2E01 (D) G2E02 (B)

# Current Activities

**April 11:** General meeting, 7 pm, GOP HQ, Boardman.

## **Comments, Questions?**

Email: [mvara.W8QLY@gmail.com](mailto:mvara.W8QLY@gmail.com) Snail-mail: MVARA, P.O. Box 14141, Poland, OH 44514

**Meeting ideas/ suggestions?** Contact Dave, KD8NZF, [KD8NZF@zoominternet.net](mailto:KD8NZF@zoominternet.net)

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## **Voice Coil Submissions**

We're looking for descriptions and pictures of club activities, project articles, technical articles, news items, swap and shop, and other information of interest to hams.

- Send text as MS Word files or ASCII text only, **NO PDF** files.
  - Use standard formats for photos: jpg, png, gif only.
  - Send text, photos as attachments. Don't embed pictures in the text. Let your editor do the layout—it's much easier that way.
  - Write a brief description with picture: event, date, names/calls of those in picture
- 

## **Hamfests** *All are subject to change. Stay current by checking the sponsoring club's web page*

### **04/13/2024 Cuyahoga Falls Amateur Radio Club 68th Hamfest.**

**Location:** Emidio & Sons Expo Center, 48 E. Bath Road, Cuyahoga Falls, OH 44221.  
**Website:** <http://www.w8vpv.org/hamfest> **Sponsor:** Cuyahoga Falls Amateur Radio Club, Inc. **Talk-In:** 147.270+ and 444.850+ both PL 110.9 **Public Contact:** Bruce Ferry , AK8B, 2907 Lee Rd. Silver Lake, OH 44224. **Phone:** 330-790-1680,  
**Email:** [hamfest2024@w8vpv.org](mailto:hamfest2024@w8vpv.org)

***AND DON'T FORGET DAYTON HAMVENTION IN XENIA, May 17-19. Make those reservations now! Don't want to drive? See 2024 Dayton Hamvention Coach Trip pg. 6. Reservation deadline April 1.***

### **04/27/2024 Tusco Amateur Radio Club Hamfest, Electronics, and Computer**

**Show Location:** Tuscarawas County Fair Grounds, 259 S. Tuscarawas Ave  
Dover, OH 44622. **Website:** <http://www.w8zx.net/hamfest> **Sponsor:** Tusco Amateur Radio Club W8ZX. **Talk-In:** 146.730 MHz 71.9 Tone **Public Contact:** Brent Gribble ,  
N8BAG 7255 French Hill Rd. NW Dover, OH 44622-7624 Phone: 330-234-9895  
**Email:** [tuscoarc.w8zx@gmail.com](mailto:tuscoarc.w8zx@gmail.com)

# HAM HUMOR: RADIO THAT WASN'T WORKING IS NOW WORKING



By [WBØRUR](#), on the scene

**PETALUMA, Calif.** — A local amateur radio operator is excited and “mad as heck” that a radio which had been non-functional for six weeks is now working perfectly with no apparent issues.

“I don’t want to look a gift horse in the mouth,” says Tom Jeffries, a ham radio operator since 1957. “I like to work on my own gear. But this one has me fit to be tied.”

The Swan 350C transceiver stopped working on January 5, when the plate current climbed above 500 milliamperes and the device emitted a high pitched squeal, followed by the slight odor of bacon.

“After that, it wouldn’t do a thing,” says Jeffries. “The dial light would come on, but that was it. I’ve tried everything to get it back on the air. Nothing worked.”

Jeffries shelved the project until a day ago, when his mother in law showed up unexpectedly with new swatches of couch fabric. He suddenly had “an emergency project to work on in the shack.”

Pulling the Swan off the shelf and plugging it in, the boat anchor fired up on 20 meter SSB with no issue.

“At first, I was like – what the heck! I was irritated that I couldn’t find the cause of the original issue. But now it works like a champ! And it STILL emits that lovely bacon odor!”

### [www.hamhijinks.com](http://www.hamhijinks.com)

# 2024 ARRL Field Day Theme: Be Radio Active

The theme for 2024 ARRL Field Day is "Be Radio Active." The event will run on June 22 - 23, and it will be one-part contest, one-part emergency communications exercise, and one-part open house -- and a great time.



The theme encourages radio amateurs to take advantage of the peak of Solar Cycle 25, which we are nearing. Activity this year is likely to be extremely high thanks to favorable solar conditions. The upper HF bands, such as 15 and 10 meters, should benefit most from the Cycle's peak.

There are resources available already for clubs and individuals to make their Field Day plans. ARRL will publish more information and tools so that hams can make the most of the event as it draws near. Amateurs interested in learning more are invited to join the [Field Day Facebook](#) group to connect with others who are planning for the big weekend.

Find links to all of the resources on the ARRL Field Day web page at [www.arrl.org/field-day](http://www.arrl.org/field-day).



## SWAP AND SHOP



### Recycle your stuff!

1. List it in the Voice Coil --or--
2. Donate items to the monthly 50/50 raffle as prizes.

- Icom IC-2KL 500 watt solid state HF linear amp with Icom IC-AT500 auto tuner \$1,400
- Heathkit Frequency Counter IM2400 \$70
- MFJ-269 Antenna Analyzer \$180
- Yaesu VX-1R Mini Dual Band HT with accessories and spare batteries \$75
- Lambda lab grade regulated pwr supply Mode 1 LK345 FMOV 0-60v 6 amp Max \$40
- Heathkit HW-2036 two meter VHF base/mobile with power supply \$80
- Heathkit Single Bander 80 meter SSB Transceiver -Tech Special \$30
- Numerous low pass filters \$10 each
- Regency MR-10 VHF Monitor Radio \$30

Contact Frank – WB8YHD – [younghotdog@arrl.net](mailto:younghotdog@arrl.net)

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--Yaesu G-800 SA Rotor Control Box--great condition, fully functional. Does not include rotor or cables, \$125.

--Mini 3 ½ inch enclosed external speaker w/mountings, cord, mono 1/8 inch plug and swivel bracket for mobile use. New condition, never used, \$8.



Contact Mark, K8MSH [mh@zoominternet.net](mailto:mh@zoominternet.net)

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## 2024 Dayton Hamvention Coach Trip

This is a gentle reminder that there are **two (2) weeks** left before reservation cutoff for the Triple 'A' Amateur Radio Association's Coach Trip to the Dayton Hamvention on May 18, 2024. The coach will depart from the Northern Lights Shopping Center on Ohio River Blvd in Economy (below Walmart) early on Saturday the 18th (roughly 2:30 AM or so), make a stop in the Zanesville area for breakfast and arrive at the Hamvention in time for opening at 9:00 AM. We will depart from the Hamvention after closing and arrive back in Beaver County that evening. Talk-in will be on the 147.135 (PL 131.8) WW3AAA repeater. **Cost for the trip is \$85, ( a bargain, let me tell you! ) and includes your admission to the Hamvention** (food, driver gratuity is extra). Space is limited, so if you're interested, contact:

Bill Bozek, N2MQK  
Cell: 724-709-5986  
Email: [n2mqk\\_pa@yahoo.com](mailto:n2mqk_pa@yahoo.com)

**Cutoff date for payment/ reservations is April 1;** here's a chance to let someone else do the driving while you plan your purchase and play with it on the way back!!

# Take a load off, Fanny, and (and, and) you put the load right on me

--Dave, KD8NZF

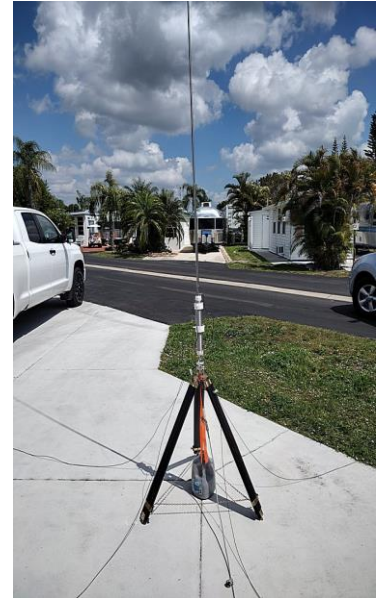
Nancy and I are fortunate to be able to stay in Florida during the winter each year. But doing an HF Antenna presents some issues. The lot we stay on is fairly small, definitely won't accommodate a dipole for the low bands and the park has a limitation of 20' on the height of masts. Several years ago that led to trying out some portable antennas and eventually settled on a Wolf River Coil Silver Bullet. The Silver Bullet is not a technical breakthrough but is a pretty rugged build of a loaded vertical antenna. It consists of an adjustable loading coil with a push up whip on top.

One of the hassles with the antenna is that each time you want to change bands you have to move the tuning collar on the coil. Not that hard to do but seems like it always comes up at the worst times and you have to grab the antenna analyzer and do some trial and error settings to get the right spot on the coil. A couple years ago, Wolf River brought out an accessory for the antenna that put two collars on the coil along with a jumper to select which collar you are using. The idea is you set one collar for a band, for instance 40M and the other for a different band, say 80M. You set their position with the Antenna Analyzer and lock them in place. After that you simply move the jumper to switch bands. Great!

But let's add one more mod - a jumper that bypasses the coil altogether, so you are connected directly to the whip. Now I can bypass the coil and shorten a couple sections of the whip and I'm on 20M. So now it is a 3-band antenna by just moving jumpers.

So, all this got me thinking about how does a loading coil make the antenna work? We all pretty much know that adding a coil will allow it to work on lower frequencies. How does that happen?

You have probably heard descriptions of tuning an antenna to resonance. We usually do that by changing the length of the elements. For instance, trimming the length of the wires of a dipole. Resonance is defined as the point where the capacitive and inductive reactance have the same value. The symbol for Capacitive reactance is  $X_C$  and Inductive is  $X_L$ . So at resonance,  $X_C = X_L$ . It would take a lot of space to dive into all the aspects of Reactance, but we can use a few rules of thumb to simplify things. The first is that both Inductive and Capacitive reactance change as frequency changes. The second is that as Frequency increases, the Capacitive Reactance decreases, and the Inductive Reactance increases. The third is that Capacitive Reactance starts large and gets smaller as the Frequency increases. The Inductive Reactance does the opposite. If you plot both of them on the same chart it looks like the graph in Figure 1.



Wolf River vertical

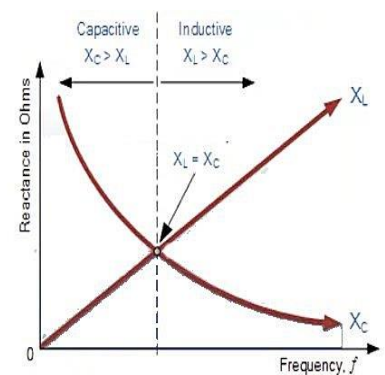


Figure 1

As you can see from the graph, there is a point where the two plots cross. This is the resonant point. Also note that at frequencies below the resonant point the  $X_c$  is greater than the  $X_l$  and above the resonant point the  $X_l$  is greater than the  $X_c$ .

OK, we are going to get to the point. Let's take the case of a vertical antenna such as the Wolf River. The antenna is made up of a coil with a telescoping whip screwed into the top. Wolf River offers a 213" telescoping whip. 14262 KHz is about the middle of the Phone portion of 20M. There are lots of calculators online to calculate the length for a vertical whip and if you use 14262KHz, they say you need about 16' 4" or about 196". The 213" whip will tune 14262 KHz if you collapse it a little bit and bypass the coil. At that length it is resonant.

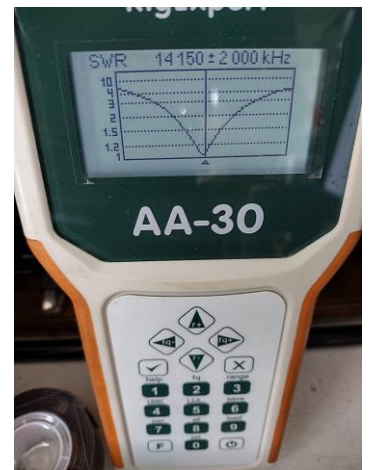
But what if you want to use the whip on 40M? Say 7175 KHz. For 7175 KHz the whip needs to be about 391", so the 213" whip isn't close. But go back to the graph. Below resonance the  $X_c$  is greater than the  $X_l$ . Put another way, the antenna acts capacitively. To make it resonant at the lower frequency we need to add some inductive reactance. Luckily coils are inductors, so adding a coil to the whip will add  $X_l$  to the antenna. We just need to add the right amount to equal the  $X_c$ . Wolf River makes the coil adjustable so you can just tune it for low SWR.

You've probably heard these types of antennas referred to as compromise antennas. You can get on the air but there are a few gotchas. The SWR will be good but for a narrow range of frequencies, so you need a good antenna tuner to use it to cover the whole band. Using the tuner lets you operate the band but reduces the efficiency of the antenna--so it's a tradeoff.

Over the next several months I'd like to hear from members about their favorite portable antenna and do some articles about their features. If you have a favorite portable antenna, I'd love to hear from you and we can work together to do an article on it. You can reach me at [dbrett100@gmail.com](mailto:dbrett100@gmail.com).

Wolf River Coil Antennas-- <https://www.wolfrivercoils.com/>

RigExpert analyzers--  
<https://rigexpert.com/products/antenna-analyzers/>





# Amateur Radio Stands Ready to Support Eclipse Operations

The upcoming April 8, 2024, solar eclipse has many excited about the opportunity to witness the darkness of totality. Spectators from across the country are traveling to the path of total darkness that will stretch from South Texas to Northeastern Maine.



Some states are anticipating more than a million travelers for the event. In the impacted areas, schools will be letting students out early for the day, and residents are being encouraged to avoid driving on the day of the event. Emergency response organizations are adding staff for the event in many areas. The eclipse is expected to directly impact parts of 14 states as it moves across the country. The travel impact alone could be substantial.

In preparation for the event, many state emergency management organizations have called on local hams to provide communication services via HF nets and locally on VHF/UHF frequencies. There have been numerous planning meetings, exercises, and preparations across the country. The ARRL Emergency Management department has worked with ARRL Section Emergency Coordinators and Section Managers in the directly affected areas to collect the frequencies each Section plans to utilize, and to assist in any frequency conflicts.

Hams across multiple states and ARRL Sections have been practicing their communications capabilities via Winlink, SSB, and CW. "It is great to see Sections along the path working together to be prepared to assist in any emergency, should it occur during the event," said ARRL Director of Emergency Management Josh Johnston, KE5MHV. "Heavy traffic is the major concern, but [anything can happen] during such a large event," he added.

Johnston went on to say, "There will be several on-air operating events on the day of the eclipse, but please give some space for any emergency traffic that may be taking place as well."

Ham Radio Science Citizen Investigation (HamSCI) is leading the Solar Eclipse QSO Party which will allow radio amateurs to participate in propagation research by operating during the eclipse and submitting their logs. Much of that activity will be focused on the FT8 frequencies of the non-World Administrative Radio Conference (WARC) HF bands, but all modes will be welcome during the event.

--ARRL News

*Editor's note: The eclipse in Youngstown will be a deep partial (with magnitude 99.76%). Don't forget to wear certified eclipse glasses to protect your eyes.*

Link to eclipse simulation centered on Canfield, OH: <https://eclipse2024.org/eclipse-cities/city/31003.html>

# Contest and Special Event Operating Information

Dave Fairbanks N8NB

Data below as well as more information courtesy of the following website:

<http://www.contestcalendar.com>.

April 2024	
+ K1USN Slow Speed Test	0000Z-0100Z, Apr 1
+ IRTS 70cm Counties Contest	1300Z-1330Z, Apr 1
+ ICWC Medium Speed Test	1300Z-1400Z, Apr 1
+ IRTS 2m Counties Contest	1330Z-1500Z, Apr 1
+ DARC Easter Contest	1500Z-1729Z, Apr 1
+ OK1WC Memorial	1630Z-1729Z, Apr 1
+ ICWC Medium Speed Test	1900Z-2000Z, Apr 1
+ 144 MHz Spring Sprint	1900 local - 2300 local, Apr 1
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 2
+ ARS Spartan Sprint	0100Z-0300Z, Apr 2
+ ICWC Medium Speed Test	0300Z-0400Z, Apr 2
+ ZL Sprint	0800Z-0829Z (CW), Apr 2 and 0830Z-0859Z (SSB), Apr 2
+ QRP Fox Hunt	0100Z-0230Z, Apr 3
+ Phone Weekly Test	0230Z-0300Z, Apr 3
+ A1Club AWT	1200Z-1300Z, Apr 3
+ CWops Test	1300Z-1400Z, Apr 3
+ Mini-Test 40	1700Z-1759Z, Apr 3
+ VHF-UHF FT8 Activity Contest	1700Z-2100Z, Apr 3
+ Mini-Test 80	1800Z-1859Z, Apr 3
+ CWops Test	1900Z-2000Z, Apr 3
+ UKEICC 80m Contest	2000Z-2100Z, Apr 3
+ Walk for the Bacon QRP Contest	0000Z-0100Z, Apr 4 and 0200Z-0300Z, Apr 5
+ CWops Test	0300Z-0400Z, Apr 4
+ CWops Test	0700Z-0800Z, Apr 4
+ SARL 80m QSO Party	1700Z-2000Z, Apr 4
+ NRAU 10m Activity Contest	1800Z-1900Z, Apr 4 (CW) and 1900Z-2000Z, Apr 4 (SSB) and 2000Z-2100Z, Apr 4 (FM) and 2100Z-2200Z, Apr 4 (Dig)
+ SKCC Sprint Europe	2000Z-2200Z, Apr 4
+ NCCC FT4 Sprint	0100Z-0130Z, Apr 5
+ QRP Fox Hunt	0100Z-0230Z, Apr 5
+ Weekly RTTY Test	0145Z-0215Z, Apr 5
+ NCCC Sprint	0230Z-0300Z, Apr 5
+ K1USN Slow Speed Test	2000Z-2100Z, Apr 5
+ PODXS 070 Club PSK 31 Flavors Contest	1000Z, Apr 6 to 0400Z, Apr 7

+ RSGB FT4 International Activity Day	1200Z, Apr 6 to 1200Z, Apr 7
+ Georgia State Parks on the Air	1200Z, Apr 6 to 2359Z, Apr 7
+ EA RTTY Contest	1200Z, Apr 6 to 1200Z, Apr 7
+ Missouri QSO Party	1400Z, Apr 6 to 0400Z, Apr 7 and 1400Z-2000Z, Apr 7
+ Florida State Parks on the Air	1400Z-2200Z, Apr 6 and 1400Z-2200Z, Apr 7
+ Mississippi QSO Party	1400Z, Apr 6 to 0200Z, Apr 7
+ Louisiana QSO Party	1400Z, Apr 6 to 0200Z, Apr 7
+ SP DX Contest	1500Z, Apr 6 to 1500Z, Apr 7
+ WAB 3.5/7/14 MHz Data Modes	1000Z-1400Z, Apr 7 and 1700Z-2100Z, Apr 7
+ K1USN Slow Speed Test	0000Z-0100Z, Apr 8
+ ICWC Medium Speed Test	1300Z-1400Z, Apr 8
+ Solar Eclipse QSO Party	1400Z-2400Z, Apr 8
+ OK1WC Memorial	1630Z-1729Z, Apr 8
+ ICWC Medium Speed Test	1900Z-2000Z, Apr 8
+ RSGB 80m Club Championship, CW	1900Z-2030Z, Apr 8
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 9
+ ICWC Medium Speed Test	0300Z-0400Z, Apr 9
+ ZL Sprint	0800Z-0829Z (CW), Apr 9 and 0830Z-0859Z (SSB), Apr 9
+ DARC RTTY Sprint	1800Z-1929Z, Apr 9
+ NAQCC CW Sprint	0030Z-0230Z, Apr 10
+ Phone Weekly Test	0230Z-0300Z, Apr 10
+ A1Club AWT	1200Z-1300Z, Apr 10
+ CWops Test	1300Z-1400Z, Apr 10
+ Mini-Test 40	1700Z-1759Z, Apr 10
+ VHF-UHF FT8 Activity Contest	1700Z-2100Z, Apr 10
+ Mini-Test 80	1800Z-1859Z, Apr 10
+ CWops Test	1900Z-2000Z, Apr 10
+ CWops Test	0300Z-0400Z, Apr 11
+ CWops Test	0700Z-0800Z, Apr 11
+ NCCC FT4 Sprint	0100Z-0130Z, Apr 12
+ Weekly RTTY Test	0145Z-0215Z, Apr 12
+ NCCC Sprint	0230Z-0300Z, Apr 12
+ K1USN Slow Speed Test	2000Z-2100Z, Apr 12
+ QRP ARCI Spring QSO Party	0000Z-0600Z, Apr 13
+ JIDX CW Contest	0700Z, Apr 13 to 1300Z, Apr 14
+ IG-RY World Wide RTTY Contest	1200Z, Apr 13 to 1800Z, Apr 14
+ DIG QSO Party, CW	1200Z-1700Z, Apr 13 (20m-10m) and 0700Z-0900Z, Apr 14 (80m) and 0900Z-1100Z, Apr 14 (40m)

+ OK/OM DX Contest, SSB	1200Z, Apr 13 to 1200Z, Apr 14
+ SKCC Weekend Sprintathon	1200Z, Apr 13 to 2400Z, Apr 14
+ New Mexico QSO Party	1400Z, Apr 13 to 0200Z, Apr 14
+ Africa FT4 DX Contest	1500Z-1800Z, Apr 13
+ North Dakota QSO Party	1800Z, Apr 13 to 1800Z, Apr 14
+ Georgia QSO Party	1800Z, Apr 13 to 0359Z, Apr 14 and 1400Z-2359Z, Apr 14
+ Yuri Gagarin International DX Contest	2100Z, Apr 13 to 2059Z, Apr 14
+ Hungarian Straight Key Contest	1500Z-1600Z, Apr 14
+ K1USN Slow Speed Test	0000Z-0100Z, Apr 15
+ 4 States QRP Group Second Sunday Sprint	0000Z-0200Z, Apr 15
+ ICWC Medium Speed Test	1300Z-1400Z, Apr 15
+ OK1WC Memorial	1630Z-1729Z, Apr 15
+ ICWC Medium Speed Test	1900Z-2000Z, Apr 15
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 16
+ ICWC Medium Speed Test	0300Z-0400Z, Apr 16
+ ZL Sprint	0800Z-0829Z (CW), Apr 16 and 0830Z-0859Z (SSB), Apr 16
+ 222 MHz Spring Sprint	1900 local - 2300 local, Apr 16
+ Phone Weekly Test	0230Z-0300Z, Apr 17
+ A1Club AWT	1200Z-1300Z, Apr 17
+ CWops Test	1300Z-1400Z, Apr 17
+ Mini-Test 40	1700Z-1759Z, Apr 17
+ VHF-UHF FT8 Activity Contest	1700Z-2100Z, Apr 17
+ Mini-Test 80	1800Z-1859Z, Apr 17
+ CWops Test	1900Z-2000Z, Apr 17
+ RSGB 80m Club Championship, SSB	1900Z-2030Z, Apr 17
+ Walk for the Bacon QRP Contest	0000Z-0100Z, Apr 18 and 0200Z-0300Z, Apr 19
+ CWops Test	0300Z-0400Z, Apr 18
+ CWops Test	0700Z-0800Z, Apr 18
+ NTC QSO Party	1900Z-2000Z, Apr 18
+ NCCC FT4 Sprint	0100Z-0130Z, Apr 19
+ Weekly RTTY Test	0145Z-0215Z, Apr 19
+ NCCC Sprint	0230Z-0300Z, Apr 19
+ K1USN Slow Speed Test	2000Z-2100Z, Apr 19
+ Holyland DX Contest	2100Z, Apr 19 to 2059Z, Apr 20
+ ES Open HF Championship	0500Z-0859Z, Apr 20
+ Worked All Provinces of China DX Contest	0600Z, Apr 20 to 0559Z, Apr 21
+ YU DX Contest	0700Z, Apr 20 to 0659Z, Apr 21
+ Dutch PACCdigi Contest	0700Z to 1900Z, Apr 20
+ QRP to the Field	0800-1800 local, Apr 20
+ CQMM DX Contest	0900Z, Apr 20 to 2359Z, Apr 21
+ Nebraska QSO Party	1100Z, Apr 20 to 2259Z, Apr 21

+ Texas State Parks on the Air	1400Z, Apr 20 to 0200Z, Apr 21 and 1400Z-2000Z, Apr 21
+ Michigan QSO Party	1600Z, Apr 20 to 0400Z, Apr 21
+ EA-QRP CW Contest	1700Z-1800Z, Apr 20 (10m) and 1800Z-1900Z, Apr 20 (15m) and 1900Z-2000Z, Apr 20 (20m) and 2000Z-2100Z, Apr 20 (40m) and 2100Z-2300Z, Apr 20 (80m) and 0700Z-0900Z, Apr 21 (40m) and 0900Z-1000Z, Apr 21 (20m) and 1000Z-1100Z, Apr 21 (15m) and 1100Z-1200Z, Apr 21 (10m)
+ Ontario QSO Party	1800Z, Apr 20 to 0500Z, Apr 21 and 1200Z-1800Z, Apr 21
+ Feld Hell Sprint	1800Z-2159Z, Apr 20
+ International Vintage Contest HF	0700Z-1100Z, Apr 21 and 1500Z-1900Z, Apr 21
+ Quebec QSO Party	1200Z-2200Z, Apr 21
+ ARRL Rookie Roundup, SSB	1800Z-2359Z, Apr 21
+ Run for the Bacon QRP Contest	2300Z, Apr 21 to 0100Z, Apr 22
+ K1USN Slow Speed Test	0000Z-0100Z, Apr 22
+ ICWC Medium Speed Test	1300Z-1400Z, Apr 22
+ OK1WC Memorial	1630Z-1729Z, Apr 22
+ ICWC Medium Speed Test	1900Z-2000Z, Apr 22
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 23
+ ICWC Medium Speed Test	0300Z-0400Z, Apr 23
+ ZL Sprint	0800Z-0829Z (CW), Apr 23 and 0830Z-0859Z (SSB), Apr 23
+ SKCC Sprint	0000Z-0200Z, Apr 24
+ Phone Weekly Test	0230Z-0300Z, Apr 24
+ A1Club AWT	1200Z-1300Z, Apr 24
+ CWops Test	1300Z-1400Z, Apr 24
+ Mini-Test 40	1700Z-1759Z, Apr 24
+ Mini-Test 80	1800Z-1859Z, Apr 24
+ CWops Test	1900Z-2000Z, Apr 24
+ 432 MHz Spring Sprint	1900 local - 2300 local, Apr 24
+ UKEICC 80m Contest	2000Z-2100Z, Apr 24
+ CWops Test	0300Z-0400Z, Apr 25
+ CWops Test	0700Z-0800Z, Apr 25
+ RSGB 80m Club Championship, Data	1900Z-2030Z, Apr 25
+ NCCC FT4 Sprint	0100Z-0130Z, Apr 26
+ Weekly RTTY Test	0145Z-0215Z, Apr 26
+ NCCC Sprint	0230Z-0300Z, Apr 26
+ K1USN Slow Speed Test	2000Z-2100Z, Apr 26

+ 10-10 Int. Spring Contest, Digital	0001Z, Apr 27 to 2359Z, Apr 28
+ UK/EI DX Contest, CW	1200Z, Apr 27 to 1200Z, Apr 28
+ SP DX RTTY Contest	1200Z, Apr 27 to 1200Z, Apr 28
+ Helvetia Contest	1300Z, Apr 27 to 1259Z, Apr 28
+ Florida QSO Party	1600Z, Apr 27 to 0159Z, Apr 28 and 1200Z-2159Z, Apr 28
+ UA1DZ Memorial Cup	1300Z-1859Z, Apr 28
+ BARTG Sprint 75	1700Z-2059Z, Apr 28
+ K1USN Slow Speed Test	0000Z-0100Z, Apr 29
+ QCX Challenge	1300Z-1400Z, Apr 29
+ ICWC Medium Speed Test	1300Z-1400Z, Apr 29
+ OK1WC Memorial	1630Z-1729Z, Apr 29
+ ICWC Medium Speed Test	1900Z-2000Z, Apr 29
+ RSGB FT4 Contest	1900Z-2030Z, Apr 29
+ QCX Challenge	1900Z-2000Z, Apr 29
+ Worldwide Sideband Activity Contest	0100Z-0159Z, Apr 30
+ ICWC Medium Speed Test	0300Z-0400Z, Apr 30
+ QCX Challenge	0300Z-0400Z, Apr 30
+ ZL Sprint	0800Z-0829Z (CW), Apr 30 and 0830Z-0859Z (SSB), Apr 30

## DX Operating Information

Dave Fairbanks N8NB

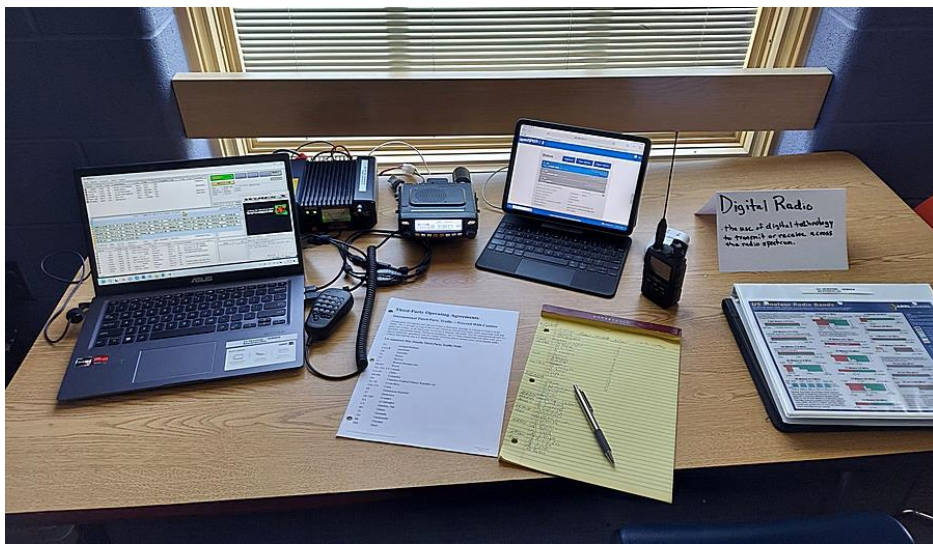
Credit for the below information and further information on these operations and others can be found at the following website: <http://www.ng3k.com>

April						
2024 Apr04	2024 Apr14	<b>Pitcairn</b>	<a href="#">VP6G</a>	M00XO	<a href="#">DXW. Net</a> 20230 910	By PG5M; 40-10m; 40-10m; CW SSB FT8
2024 Apr05	2024 Apr07	<b>Mayotte</b>	<b>TO4VV</b>	LoTW	<a href="#">DXW. Net</a> 20230 902	By FH4VVK fm Quatier Cabaribere; HF; SSB FT8; QSL via Club Log OQRS or FH4VVK direct
2024 Apr06	2024 Apr13	<b>Liechtenstein</b>	<b>HBO</b> <b>NEW</b>	OH2YL	OH2YL 20240 320	By OH2YL as HBO/OH2YL; 160-10m; CW FT8
2024 Apr06	2024 Apr16	<b>Liberia</b>	<a href="#">A8OK</a>	LoTW	<a href="#">DXW. Net</a> 20240 302	By OK1BOA OK1FCJ OK1CRM OK1GK OK2ZA OK2ZC OK2ZI OK6DJ; 160- 6m; SSB CW RTTY FT8 FT4 PSK; QSL via Club Log OQRS, OK6DJ

2024 Apr06	2024 Apr16	<b>Maldives</b>	<a href="#">8Q7HZ</a>	LoTW	<a href="#">TDDX</a> 20240212	By TA1HZ; 30-10m; SSB FT8 FT4
2024 Apr07	2024 Apr13	<b>South Cook Is</b>	<a href="#">E51TLM</a>	K7TLM	<a href="#">DXW.Net</a> 20240304	By K7TLM KD7YZE fm Rarotonga I; 10m; SSB on 28385 khz, QRS CW on 28060 khz; 5w; 1900- 0100 UTC; see qrz.com for QSL details
2024 Apr10	2024 Apr12	<b>Bahamas</b>	<b>TO4VV</b>	LoTW	<a href="#">DXW.Net</a> 20230902	By FH4VVK fm Quatier Cabaribere; HF; SSB FT8; QSL via Club Log OQRS or FH4VVK direct
2024 Apr11	2024 Apr16	<b>Canada</b>	<a href="#">VY0</a>	LoTW	<a href="#">TDDX</a> 20240315	By WE9G as WE9G/VY0 fm Iqaluit, Nunavit; 80-10m; FT8 FT4 SSB; 100w; G5RV, EF sloper
2024 Apr12	2024 Apr14	<b>Mayotte</b>	<b>TO4VV</b>	LoTW	<a href="#">DXW.Net</a> 20230902	By FH4VVK fm Quatier Cabaribere; HF; SSB FT8; QSL via Club Log OQRS or FH4VVK direct
2024 Apr12	2024 Apr21	<b>South Africa</b>	<a href="#">ZS6</a>	LoTW	PB5X 20240226	By PB5X as ZS6/PB5X; @ZS6TT; HF; holiday style operation; QSL via PA1AW
2024 Apr16	2024 Apr30	<b>Austral Is</b>	<a href="#">TX7W</a>	LoTW	<a href="#">DXW.Net</a> 20240209	By K5WE W5CCP fm Raivavae (IOTA 114); 160-6m; CW FT8 FT4 SSB RTTY; 500w; QSL via Club Log OQRS (preferred) or K5WE
2024 Apr18	2024 Apr21	<b>Svalbard</b>	<b>JW8EKA</b>	LA8EKA	<a href="#">DXW.Net</a> 20240103	By LA8EKA; @JW5E; 80-10m; SSB + digital
2024 Apr18	2024 May08	<b>Bhutan</b>	<a href="#">A52</a>	Club Log OQRS	<a href="#">TDDX</a> 20240109	By SP9FIH as A52P and SP6CIK as A52CI fm Dochula; 40-6m; SSB CW + digital
2024 Apr25	2024 Apr30	<b>Mariana I</b>	<b>KH0</b>	LoTW	<a href="#">DXW.Net</a> 20240314	By JA6REX as KH0/JA6REX, W6HZH as KH0/W6HZH, JA6VQA as WH0B fm Saipan (IOTA OC-086); 160-6m; FT8 FT4; QSL via hc
2024 Apr27	2024 May04	<b>Market Reef</b>	<a href="#">OJ0T</a> <b>NEW</b>	LoTW	<a href="#">TDDX</a> 20240320	By LA1UW LA3WAA LB5SH LB0VG; 160-6m; SSB CW FT8; QSL via EA5GL
2024 Apr30	2024 May13	<b>Botswana</b>	<a href="#">A25SHD</a> <b>NEW</b>	LoTW	<a href="#">DXW.Net</a> 20240320	By HB9SHD; HF; holiday style operation



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Youngstown  
City Schools  
STEAM  
students.**







The Extra exam was last rewritten in 2020 and a new exam will be issued in July of 2024. If you have wanted to take the Extra exam you may want to consider doing it before the new exam is issued as it usually takes a little time after a new exam is released before the study materials catch up with it.

## Extra Pool

E9C01

What is the radiation pattern of two  $1/4$ -wavelength vertical antennas spaced  $1/2$ -wavelength apart and fed 180 degrees out of phase?

- A. Cardioid
- B. Omni-directional
- C. A figure-8 broadside to the axis of the array
- D. A figure-8 oriented along the axis of the array

E9C02

What is the radiation pattern of two  $1/4$  wavelength vertical antennas spaced  $1/4$  wavelength apart and fed 90 degrees out of phase?

- A. Cardioid
- B. A figure-8 end-fire along the axis of the array
- C. A figure-8 broadside to the axis of the array
- D. Omni-directional

## General Pool

G2E01

Which mode is normally used when sending RTTY signals via AFSK with an SSB transmitter?

- A. USB
- B. DSB
- C. CW
- D. LSB

G2E02

What is VARA?

- A. A low signal-to-noise digital mode used for EME (moonbounce)
- B. A digital protocol used with Winlink
- C. A radio direction finding system used on VHF and UHF
- D. A DX spotting system using a network of software defined

Answers pg. 2

“When in doubt, look intelligent.” – Garrison Keillor

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Submissions must be received **no later than the 24th** of the month prior to the month of issue, unless otherwise specified. **Submissions should be in MS Word format or ASCII text—no PDF, please!** Material received after the deadline will be used in the next month’s VOICE COIL if it is still current and /or newsworthy.

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