

# THE

# SIGNAL



SUWALL

## Newsletter of the Bella Vista area Radio Club

*Arkansas' Largest  
Radio Club*

**November 2022**

Monthly Meetings: 1<sup>st</sup> Thursdays @ 7 p.m.

Arkansas Law Enforcement Training Academy (ALETA)

3424 S. Downum Road, Springdale AR

**Club Call:** N5BVA • **Repeater:** 147.255 +offset, pl 162.2  
**Website:** [www.bellavistaradioclub.org](http://www.bellavistaradioclub.org)

### **WEEKLY NETS:**

- 3.830 KHz Roundtable  
Sundays @ 4 pm during CST, 4:30 pm during CDT
- 147.255 BVRC Legacy Net - Wednesdays @ 8 pm
- Wide Area Net - Tuesdays @ 8 pm on the  
NWA Skywarn Link System
  - Bentonville – 146.865, -offset, pl 103.5
  - Fayetteville – 147.315, +offset, pl 97.4
  - Huntsville – 443.625, +offset, pl 97.4
  - Green Forest – 145.310, -offset, pl 103.5

# NEXT BVRC MONTHLY MEETING

THURSDAY, NOVEMBER 3, 2022 @ 7PM  
ARKANSAS LAW ENFORCEMENT TRAINING ACADEMY  
3424 S. DOWNUM ROAD  
SPRINGDALE, AR

## NOVEMBER MEETING INFORMATION

The BVRC November meeting brings a hugely vital topic to the meeting room. – BVRC's new Emergency/Public Communications Director Chris Ebert – NAØD will be conducting one of the most important club programs of the year. Chris will be speaking on the formation and rebirth of BVRC's Emergency / Public Service Communications program.

Chris' dossier is *massive* in this area of our hobby. He has been involved with public service communications since 1995. He is a former Emergency Coordinator of the ARRL North Texas section ARES (Amateur Radio Emergency Service), has served as a firefighter and Regional District Coordinator for a 3-county area in Colorado. He has also coordinated communications for many bike competitions, triathlons, running events, Field Days, and Simulated Emergency Tests, as well as managed EmComm crews, worked in aid stations, search-and-rescue vehicles, and extraction teams.

Some of the topics Chris will cover are: Forming an ARES presence in NW Arkansas, establish a list of willing participants, create the BVRC EmComm structure, determine what/who will be our served agencies, create an ICS training program for participants, and many other topics and areas of emergency communications.

Chris moved to NW Arkansas from Mena last spring and is TV station KNWA's Director of Operations and Engineering. When Chris discovered the need to rejuvenate BVRC's EmComm/PubComm program, he immediately offered to head this program. We are immensely indebted to Chris for assuming this essential role.

We have had scores of members check the "Emergency Communications" box on their membership applications indicating their interest in this area. Here's your opportunity to join Chris on the BVRC EmComm/PubComm team. **DON'T MISS THIS IMPORTANT PROGRAM!**



# Arkansas Repeater Council & Repeater Operation Highlight October Meeting

BVRC's Technical Officer Tem Moore – N5KWL provided yet another excellent attendance by club members with a very informative and impressive program on the Arkansas Repeater Council and proper repeater operation and etiquette.



Tem shared some very enlightening and vital information in the program. Every state in the union has a repeater council. The purpose of the repeater council is to eliminate or reduce interference between repeaters. All persons involved with the repeater council are volunteers.

He then explained the procedure and protocol required to get a repeater coordinated and approved by the repeater council.



**Tem – N5KWL**

A very important point that Tem augmented is that it is not mandatory to put a repeater on the air through the repeater council. However, ..... when a person or group randomly places a repeater on the air and that repeater causes interference to adjacent repeaters already on the air that have been approved by the repeater council, if the issue is reported to and investigated by the FCC, the FCC will always gravitate to the repeater(s) who have been coordinated by the repeater council. The person/group sponsoring the non-coordinated repeater is then subject to disciplinary action and/or fines by the FCC. So Tem said, in essence, that even though it is not required, it is a good safeguard to contact the repeater council for coordination before placing a new repeater on the air.

Tem advised that the Arkansas Repeater Council has multiple team members to resolve internal issues, such as website programmer John Carroll – AA5JC. The ARC does have a website and a Facebook page.

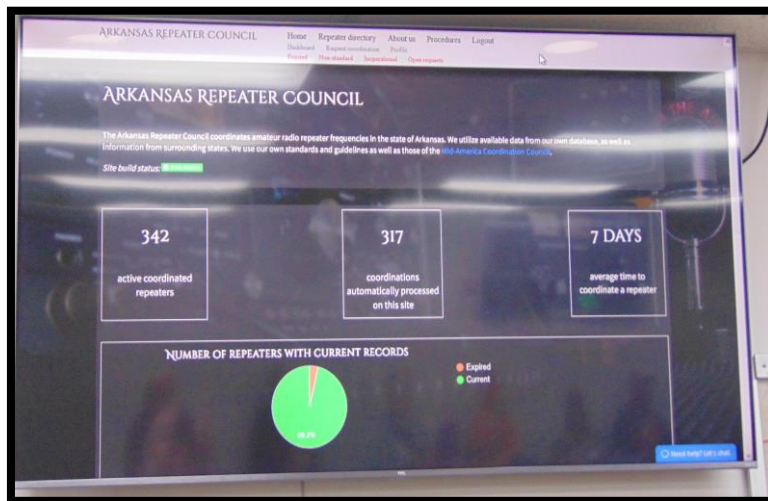
Tem then took meeting attendees through the ARC website. He said the normal time period to have a repeater coordination application approved is around 7 days. The website has a repeater directory, although Tem advised the best reference for finding repeaters is [www.repeaterbook.com](http://www.repeaterbook.com). (BVRC member Jon Williams – K5DVT is the Coordinator for Arkansas for the repeaterbook website.)

He covered Arkansas Repeater Council procedures and standards, which can also be viewed on the council's website. Tem said the the Arkansas Repeater Council has evolved from its infant beginnings into a top-notch entity that is expedient, accurate, and willing to help.

Tem said that he, and most other repeater owners in our area, enjoy building and installing repeaters and placing them on the air for all fellow area hams to use. However he did share that there are two things that most repeater owners do not appreciate:

1) Crossband repeating through a repeater, and 2) "Kerchunking" – that is, keying-up a repeater to check its signal strength back to your radio, without identifying. By simply saying, "This is W5ABC testing" when accessing a repeater for this purpose, this should be the correct procedure.

Tem also emphasized when using a linked repeater system, to wait 1-2 seconds after depressing your mic button before speaking. This enables all repeaters in the system to synchronize with each other. If you fail to pause before speaking, your transmission will be truncated (first portion of transmission is cut off). Thanks Tem for a super informative program on this very important topic of repeater coordination and operation!





# BVRC OFFICERS

## *President*

Tom Northfell - W5XNA

[w5xna@arri.net](mailto:w5xna@arri.net)

## *Vice – President*

Don Banta - K5DB

[arsk5db@gmail.com](mailto:arsk5db@gmail.com)

## *Secretary*

Dana Hill - W5DGH

[dana.hill1979@gmail.com](mailto:dana.hill1979@gmail.com)

## *Treasurer*

Marc Whittlesey - WØKYZ

[almarc11@yahoo.com](mailto:almarc11@yahoo.com)

## *Technical Officer*

Tem Moore - N5KWL

[temmoore@gmail.com](mailto:temmoore@gmail.com)

## *Repeater & Club Call Trustee*

Glenn Kilpatrick - WB5L

[wb5l@arri.net](mailto:wb5l@arri.net)

# APPOINTED OFFICERS

## *VE Testing Coordinator*

Don Cooper - KC7DC

[don\\_c@hotmail.com](mailto:don_c@hotmail.com)

## *Elmer 9-1-1 Coordinator*

Vinson Carter - WV5C

[vinsoncarter@gmail.com](mailto:vinsoncarter@gmail.com)

## *2-meter Net Coordinator*

Ron Evans - K5XK

[k5xk@arri.net](mailto:k5xk@arri.net)

## *EmComm Director*

Chris Ebert - NAØD

[wpuc675@gmail.com](mailto:wpuc675@gmail.com)

## *Webmaster*

Glenn Kilpatrick - WB5L

[wb5l@arri.net](mailto:wb5l@arri.net)

## *Video Director*

Adnan Ademovic - KDØKCY

[kd0kcy@gmail.com](mailto:kd0kcy@gmail.com)

## *Newsletter Editor*

Don Banta - K5DB

[arsk5db@gmail.com](mailto:arsk5db@gmail.com)





# call for **NOMINATIONS**

What do *YOU* want in a radio club? BVRC is the largest and most diverse radio club in the region for good reason. It's because we continue to share common values: The enjoyment and magic of two-way radio across a wide number of modes and frequency spectrum, combined with continued recruitment and service to our regional community. After three years of service, it's time for W5XNA and K5DB to pass the reins of the Club to new leadership. Who do you know who reflects your values? Ideal candidates possess a deep love and appreciation for the hobby, and its multi-faceted interests. They are not "one dimensional" in one area of amateur radio, but understand that our strength is in our diversity. We are public service minded, yet we're "ragchewers," experimenters, technical and non-technical. We are also repeater enthusiasts, HF operators, DXers, and yes, contesters. Some of us enjoy "working the birds" (satellites) and the ISS (space station). We are QRP (low power) enthusiasts and QRO (high power) operators. Some of us have large towers and beam antenna arrays, and many of us live in antenna restricted HOAs (Home Owner Associations) limited to low-profile stealth antennas. We like awards chasing, organizing and operating Special Events Stations and QSO Parties. We like digital modes like RTTY and FT-8, while others enjoy SSB roundtables and operating old-fashioned CW (Morse Code). We operate mobile and enjoy portable operations in POTA (Parks on the Air) and SOTA (Summits on the Air). It takes all of us, with our unique wide interests in all things amateur radio, to make a healthy club.

Yet no club is perfect, and we're no different. In an era in which the majority are not "joiners" and leaders are in short supply, how can you help lead BVRC forward? Nominations are now being accepted for our most critical roles of BVRC President and Vice-President. (Meanwhile, most other elected officers have agreed to continue to serve, unless you step forward?) Hopefully all of us respect and appreciate our wide array of special interests. We want the Club to continue to flourish...and yes, perhaps improve in some areas. *Will you help? Nominate yourself or a fellow member today.*

**Contact Dave – K5TRT, Nomination Committee Chair, with your nomination(s) at his e-mail address: [davemersky@gmail.com](mailto:davemersky@gmail.com)**

# From the Desk of the President



Welcome to the November issue of The Signal.

First, let me say thanks to the several new members of BVRC. We hope that you will become actively involved in the club and our great hobby. Welcome aboard! :

Stan Stockton – K5GO, Debra Johnson – KI5WUI, Bobby Stills – KD5EYC, Bob Winstead – KF5OMV, Steven Dickson – KI5WUS, Travis Dupriest – KI5YLE, and Justin Kelly – AI5IS.

Our current membership totals 188. Thanks to all you valued members for your support of BVRC!

A special thanks goes to our Technical Officer Tem Moore – N5KWL for a very interesting and informative presentation on the *Arkansas Repeater Council* at our October meeting! FB!

Some of our recent BVRC activities and news include:

- CW Academy Class with K5DB (continuing)
- The exciting advent of the Lingle Middle School (Rogers) Amateur Radio Club - KA5LMS with Robert K5NZV Teacher/Coach/Sponsor. The club participated in the ARRL School Club Roundup the 3rd full school week in October. FB!
- Fox hunting party on Friday, October 21 at J.B. and Johnelle Hunt Family Ozark Highland Nature Center. Thanks, Vinson WV5C for organizing this fun and informative event. More fox hunting parties are in the plans (see the calendar).
- Providing emergency communications for the *Big Sugar NWA Gravel Race* on October 22
- Picking up donated amateur radio equipment from the estate of Jay Eimer AD5PE (SK) the morning of October 15
- Weekly BVRC Breakfast

Let me remind everyone, and especially our newcomers to the hobby, BVRC has a Donor/Loaner Program. The club has received several donations of amateur radio equipment over the years and a recent large donation by Cathy Eimer – KE5AGO in honor of her husband Jay – AD5PE (SK). BVRC maintains an inventory list of all donated items available to be loaned out. BVRC members are encouraged to borrow needed equipment on a “*try before you buy*” basis. Contact any board member for help in securing an item that you would like to borrow.

This month’s meeting will feature a presentation on the *BVRC EmComm Program Launch* by Chris Ebert – NAØD, BVRC Emergency Communications Program Chair. This committee is a critical part of our club and supplying NWA area communications needs. I encourage everyone to consider being a part of this exciting part of amateur radio. Of course, guests are ALWAYS welcome.

Don’t forget our on-air weekly nets. They are informative, entertaining, and all are welcome to join-in! The net schedule appears on page 1 of this newsletter.

The BVRC planning calendar currently includes:

- ARRL November Sweepstakes – CW: November 5-7, SSB: November 19-21

- Fox Hunting Party - November 6 @ 2 pm - Metfield Skills Park, Bella Vista
- BVRC Nomination Committee - in progress: President & Vice President positions are open
- BVRC Holiday Banquet and Awards (December 1)
- BVRC 2023 Club Election (December 1)

The BVRC Christmas and Awards Banquet returns on Thursday evening, December 1, after having been absent for several years due to the Covid pandemic. We have enough chairs, but we are in need of tables. If you plan on attending, *bringing your own table would be appreciated*. We need setup and cleanup volunteers. If anyone has spare holiday decorations for use at the banquet, those would be appreciated. If anyone has a Santa suit that would like to grace the meeting with his presence, let us know! Please contact Bill Durham – KG5ZCI, our banquet coordinator, if you would like to help-out in any of these areas. Bill's e-mail address is: [bdurham@uark.edu](mailto:bdurham@uark.edu).

The highlights of the banquet will be:

- 1) The election of new officers for the 2023 term, and
- 2) The evening will conclude with the presentation of the following awards:

Ham of the Year

Elmer of the Year

Rookie of the Year

Program Presenter of the Year

Volunteer of the Year

Special service awards

Please contact me or any member of the club's leadership team with any suggestions or concerns  
[w5xna@arrl.net](mailto:w5xna@arrl.net) and/or 479-530-0967. 73! – Tom, W5XNA



**BREAKING NEWS!  
READ ALL ABOUT IT!  
RUSSELLVILLE  
HAMFEST IS BACK!**



From our dear friend and former ARRL Arkansas Section Manager Dennis Schaefer – W5RZ, also a member of the Arkansas River Valley Amateur Radio Foundation (ARVARF), in Russellville:

*The Russellville Hamfest is back and has been renamed the Arkansas River Valley Hamfest because the best venue we could find is in Dardanelle. Our new hamfest venue will be:*

**Dardanelle Community Center**  
**2011 Highway 22**  
**Dardanelle, AR 72834**  
**March 4, 2023**

*The Dardanelle Community Center is very nice, and we expect to have a good hamfest. We were off for two years and access to previous locations has changed, so we will be re-inventing a few things. Mark your calendars!*

73, Dennis – W5RZ



# BVRC VE REPORT

From Don Cooper – KC7DC, BVRC VE Coordinator  
October 8, 2022



## Congratulations!!!

**Mack Perry – KI5RFI – Springdale  
New General!**

**Justin Kelly – AI5IS – Fayetteville  
New Technician, General, & Extra!**  
*(Passed them all in one sitting)*

***Test sessions are conducted each 2nd Saturday of the month:***

- 10 am at Shiloh Museum, 118 W. Johnson Ave, Springdale***
- 2 pm at Bella Vista Fire Station #1, 103 NE Towncenter, Bella Vista***

***Help promote the availability of the Club's monthly test sessions.  
Tell your friends and acquaintances!***



# WELCOME New BVRC MEMBERS!!!

**Bobby Stills – KD5EYC – Springdale**  
**Debra Johnson – KI5WUI – Huntsville**  
**Bob Winstead – KF50MV – Bella Vista**  
**Steven Dickson – KI5WUS – Springdale**  
**Stan Stockton – K5GO – Siloam Springs**  
**Travis Dupriest – KI5YLE – Wesley**  
**Justin Kelly – AI5IS – Fayetteville**

## BVRC RECEIVES ULTRA- STELLAR DONATION

On Saturday morning, Oct. 15, five officers from BVRC accepted a wonderful and generous donation from Cathy Eimer – KE5AGO at her home in Rogers.

Cathy and her husband, Jay – AD5PE, moved here from Tulsa in 2018, and brought all of Jay's ham station tower and equipment with them to set-up a new ham radio home in Rogers. Then, quite unexpectedly, Jay passed away on Sept. 4, 2022. Cathy had heard about BVRC, and the great organization and help that it is to many NW Arkansas amateurs. She said, "Jay loved amateur radio and would want his gear to go to people who would use it and love it as much as he did." Jay was also a past President of the Tulsa Amateur Radio Club.

The officers are now in the process of cataloging all the items, and where they will be under safe keeping. After the list is completed, the equipment will either be used for the BVRC Loaner/Donor Program or for use in Club activities (Field Day, portable operations, emergency communications, etc.). The inventory list will take a little time to compile and arrange before the equipment will be available to be utilized by the Club, but will be completed as soon as possible.

BVRC offers an infinite thanks and gratitude to Cathy for her considerable donation. The officers advised Cathy that the equipment will be put to good use in Club activities as well as helping newcomers to the Club to get started on the right foot in amateur radio.

Officers present to receive the donation were: Don Cooper-KC7DC, Tem Moore-N5KWL, Mark Whittlesey-WØKYZ, Don Banta-K5DB and Tom Northfell-W5NXA. (Photos courtesy Tom-W5XNA)





# BVRC CONDUCTS FIRST CLUB FOX HUNT!

11 members of the Bella Vista area Radio Club convened for the Club's first radio direction finding event ("fox hunting") on Friday afternoon, Oct. 21, at the J.B. and Johnelle Hunt Ozark Highlands Nature Center in Springdale. BVRC Elmer 911 Coordinator Vinson Carter – WV5C headed-up and coordinated the the meeting.



This was actually a "Fox Hunting 101" activity, as the majority of the participants had never experienced a radio fox hunt. Although Vinson said it was a learning experience for him also, he provided excellent instruction per the material that he had learned at the ARRL Teachers Institute on Wireless Technology that he attended this past summer in Dayton, OH.

The new fox hunting equipment that the Club recently purchased really made a difference in the demonstrating and learning of this facet of amateur radio. HTs, attenuators, and antennas were on hand to provide the participants with the best devices in assisting them in finding the "fox". It was also very exciting to see several members bringing their own directional antennas that they had purchased or made from scratch.

Everyone had a really fun and enjoyable time. Vinson and Tom have already advised that a second Fox Hunting 101 will take place at Metfield Park in Bella Vista on Sunday afternoon, November 6, at 2 pm. Be sure and join-in on some super radio fun! (All photos courtesy K5DB)



BVRC Fox Hunt participants from L to R: Mike Calvi – KF5RUO, Mark Sutherland – K5DXR, Tom Thibeault – KN4SLP, Mike Schroeder – NØALJ, Mack Perry – KI5RFI, Mark Whatley – K5XH, Vinson Carter – WV5C, and Chuck Korzendorfer – KM5G. (Not shown: Tom Northfell – W5XNA, Dave Mersky – K5TRT, and Don Banta – K5DB)



There were two “foxes” to be found for this event. The first one was a little bit of a challenge. The group wound its way along the park trail, and their direction finding led them to a hayfield alongside the trail with numerous freshly-baled round bales. After covering the entire field and checking all the round bales, they finally discovered the fox at one of them.

Finding the first fox indeed enabled the participants to “get their feet wet” in radio direction finding. They found the second fox, about a mile from the first one, much faster.



Preparing for the hunt.



The pursuit begins.



“Hey everybody, the signal’s getting stronger!”

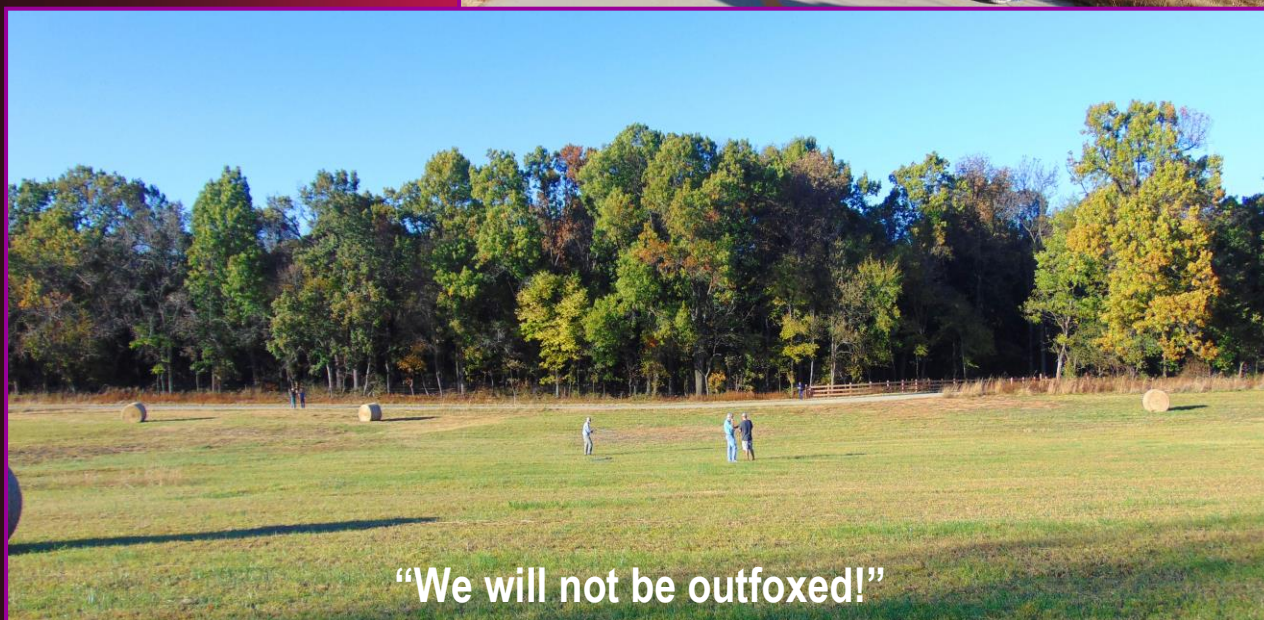
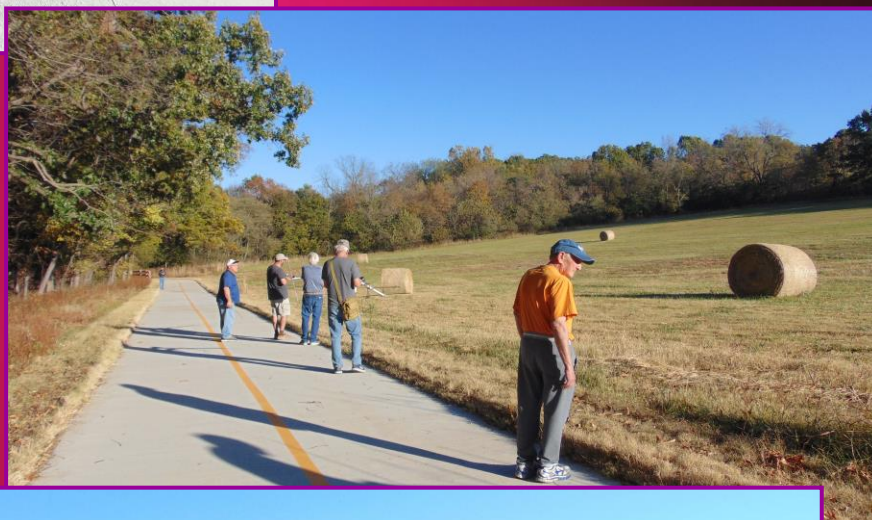


**“Yep, we’re heading in the right direction, alright!”**



**WV5C and KN4SLP  
zeroing-in**

**“I bet the sucker is in one of those haybales...”**



**“We will not be outfoxed!”**





"Hey! It's this one!"



Tom – KN4SLP  
with Fox #1



Vinson – WV5C  
was an excellent instructor  
for the group





## ***BVRC PARTICIPATES IN BIG SUGAR BIKE RACE***

**(Story by Tom – W5XNA, photos courtesy Alan – KEØQFO, Dana – W5DGH, and Tom – W5XNA)**

Seven members of Bella Vista area Radio Club provided emergency/public service communications in the Big Sugar NW Arkansas gravel bicycle race that was held on Saturday, Oct. 22. BVRC's Technical Officer Tem Moore – N5KWL coordinated the event for BVRC.

The start and finish line of the race was in Bentonville.

There was a 6am meeting at the staging area followed by the members getting to their assigned mile markers. The whopping 100-mile race started at 7:30am and the 50-mile race began at 8:30am. Initial assignments were: Tem – N5KWL and Steve – KI5WUS at the Pineville, MO checkpoint. Robert – K5NZV, Dana – W5DGH, and Alan – KEØQFO were assigned the Whistling Springs, MO checkpoint. Joe – W5AEN was in chase and rescue Jeep #15, and Tom – W5XNA in Jeep #12. The Jeeps ended-up following the last 2 participants to the finish line, so Joe and Tom didn't complete their race duties until around 7pm. BVRC extends kudos to all the club participants who did a stellar job in providing communications and monitoring assistance during the race.

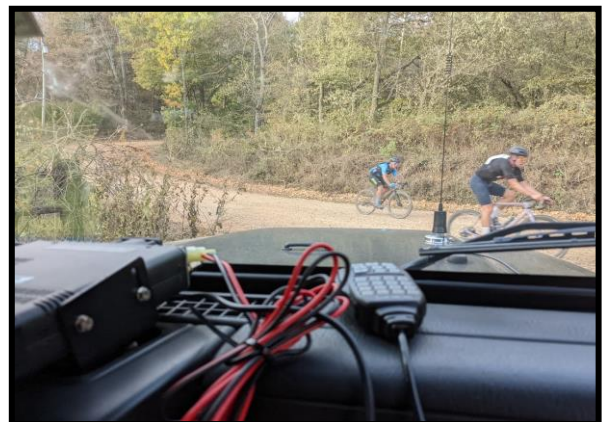
Joe and Tom extend their thanks to Stephanie and Marshall, the Jeep drivers from the Kansas City Jeep Club, for expertly driving them through some tough terrain.



**A portion of the many riders at the  
Whispering Springs Brewery check point**



**Robert – K5NZV  
and  
Alan - KEØQFO**



**Action shot from Jeep chase vehicle**



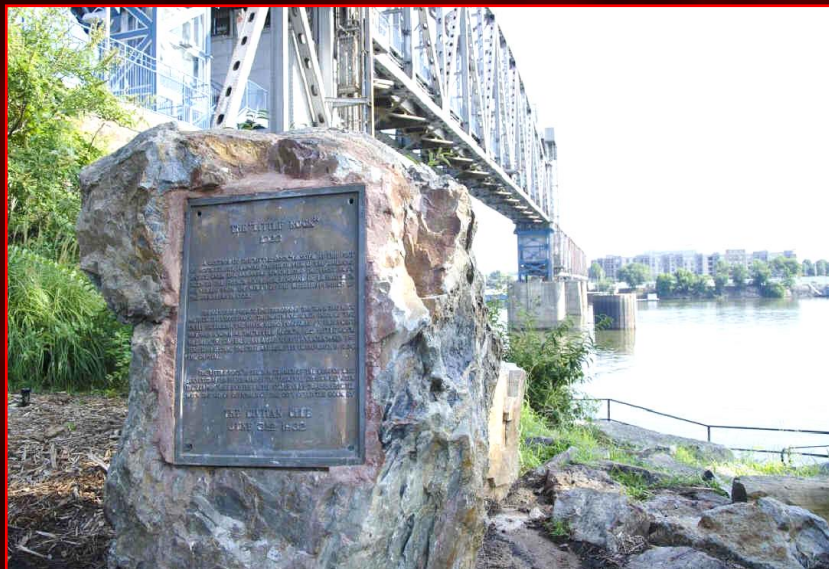


Several members of BVRC are also members of the Razorback Contest Club. They, along with a few guest operators, participated in a 4-day activation of Special Event Station K5A during September 22-25. The multi-objective of the event was to celebrate a milestone in Arkansas history, enable current club members to keep their operating skills sharp, help newcomers to the hobby to be introduced to HF operation, and unveil special event station operating to those who had never before experienced this type of amateur radio happening.

The main goal for the K5A operation was to commemorate the 300<sup>th</sup> anniversary of the discovery of the Arkansas state capital, Little Rock, to the ham radio world.

The area known today as Little Rock was first discovered in 1722 by a French exploration party led by Benard de la Harpe. La Harpe noted the first outcropping of the rock he had seen along the banks of the Arkansas River since leaving New Orleans. He reportedly called it 'la petite roche' or 'the little rock' to distinguish it from a larger cliff across the river.

The area was largely wilderness, inhabited by the Quapaw or Arkansa Indians, and had been explored by Spanish gold hunters and by itinerant trappers. The country became a part of the Territory of Louisiana, which was governed by France, Spain, and then France again, from which it was purchased by the United States in 1803. In October of 1820, it was designated as the new capital for the Arkansas territory, a mere 10 months after the first permanent settlement was established in Little Rock. Arkansas joined the Union as the 25<sup>th</sup> state in 1836. A historical marker placed in 1932 still stands on the south end of Junction Bridge in Little Rock (lower left).



The operators experienced fast paced pileups practically all day long on each day of the event. Everyone enjoyed working the massive amount of stations calling K5A, as well as the fun and fellowship, operating, and logging for each other. The event took place at the club station at K5DB's QTH.

The totals of the event were 2,091 QSOs, which included 49 out of 50 states, 10 of the 13 Canadian provinces, and 29 DX countries. Here are some photos of the K5A operators.....

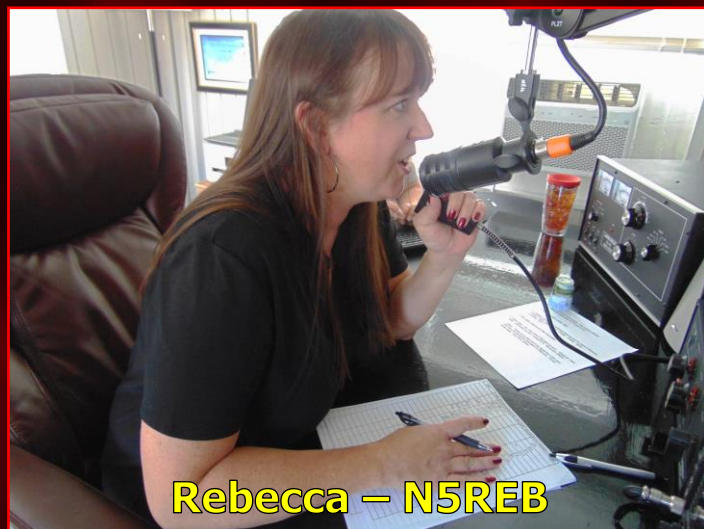




**Robert – K5NZV**



**Dana – W5DGH**



**Rebecca – N5REB**



**Jan – WB5JAN**



**Gregg – KF5WAP**



**Shannon – KI5WUD**



**Kathy – WQ5T****Vinson – WV5C****Steve – W5KI****Tom – W5XNA****ARRL  
FOUNDATION**

**From  
Vinson Carter – WV5C,  
BVRC Elmer 911 Coordinator**

We would like to remind everyone that the 2023 ARRL Foundation Scholarship Application period is now open.

More than 100 scholarships ranging from \$500 to \$25,000 will be awarded next year to amateur radio enthusiasts wishing to further their education. Scholarship applicants must be active, FCC-licensed amateur radio operators. All applications must be submitted through the online application portal and more information can be found at <https://www.arrl.org/scholarship-application>.

Many BVRC members may be interested in applying themselves or that have children, grandchildren, or friends who might benefit from an ARRL Foundation Scholarship. Please help us spread the news about this exciting opportunity!

*73 – Vinson, WV5C*

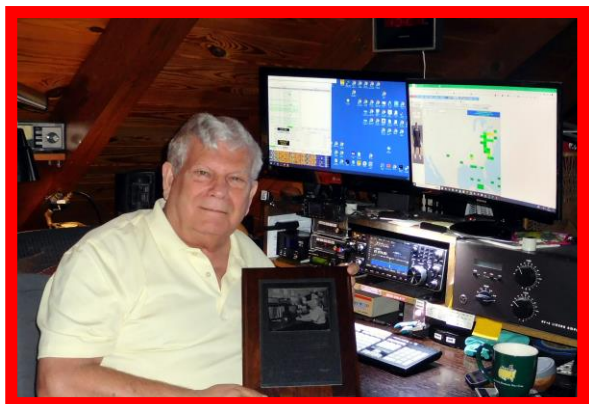


# STEVE NORRIS – W5KI RECIPIENT OF ARRL FRED FISH MEMORIAL AWARD

The ARRL Fred Fish Memorial Award was created in honor of Fred Fish – W5FF (SK), who was the first amateur to have worked and confirmed all 488 Maidenhead grid squares in the 48 contiguous United States on 6 Meters.

BVRC member Steve Norris – W5KI from Eureka Springs recently qualified for this coveted and *extremely hard to obtain* award. The award was initiated in 2007, and in those 15 years only 39 have been issued. – Steve is the proud possessor of FFMA #32!!!

Steve shared with us, “All contacts starting Jan 1, 1983 count for the award, if made within a 200 km circle. So I had to “start over” when I moved back to Arkansas in 2006. The award was approved by the ARRL and started in 2007. #1 was awarded in 2008 to Fred Fish posthumously for his working all 488 grid squares on 6-meters many years before that. Awards #2 and #3 were also awarded that year. By 2019, only 5 more were awarded, as everyone tried to work their way up to the top. The last 3 years has brought the award total to 39, as of now. Since I had to start over with 6-meter grid confirmations for VUCC/FFMA in 2006, it took me 16+ years to acquire the award.”



**Steve, we all wish you hearty congratulations for achieving this monumental feat!**



# FTA KU-BAND SATELLITE TV

By Mike Schroeder - NØALJ

When I lived in the country, back in the 80's, I had a big C-Band Satellite TV dish and a Drake receiver. To me it was exciting to explore TV channels received directly from satellites in outer space! I enjoyed exploring the Mexican and Canadian satellites and remember being able to see classic Star Trek in French! There was a great publication, that served as a TV guide to programming on the satellites, known as OnSat. It had a satellite location chart that showed the positions in the sky, transponders, and TV channels available on horizontal and vertical polarities. In the early days, most all C-Band channels were free to watch and OnSat could be found in most places carrying magazines.

Satellite TV was the answer for those who lived in rural areas and didn't have access to cable TV and wanted more than what a TV antenna had to offer. C-Band satellite TV was in its glory until the advent of signal scrambling. Receivers came out to enable reception of the Videocipher II scrambling mode but you had to now pay to subscribe to the programming. OnSat mentioned KU-Band satellites but I didn't have the equipment for KU-Band at the time.



When I moved to town, in the mid-90's, most people had gotten rid of their big ugly C-Band dishes because of the advent of Dish Network and Direct TV with their high power KU-Band subscription TV services that only required a much smaller dish. C-Band still lives on with some channels still free today, but I decided to make a project of exploring the FTA or "Free To Air" services on KU-Band because of the much smaller dish size. FTA are the channels that are meant to be free and in the clear. I had been a listener of the Republic Radio Network on broadcast radio, and they were advertising an FTA starter kit and it was priced right offering a way to listen to Republic Radio Network via Satellite.

The kit, unfortunately, did not come with setup instructions, but featured the HotDish 75, coax and a simple KU-Band receiver. I had to learn how to setup by researching the internet. I found forums on the internet that were very much helpful at: [www.legalfreetoair.com](http://www.legalfreetoair.com), <https://rickcaylor.websitetoolbox.com/>, and <https://www.satelliteguys.us>.



And, you can order equipment at the following websites:

<https://hypermegasat.com/>

<https://www.rickssatelliteusa.com/>

You can find the C-Band and KU-Band satellites, transponders and channel listings here:

<https://www.lyngsat.com/>

One of the most interesting aspects of KU-Band FTA Satellite TV is being able to pick up TV channels from other countries, Wild feeds, PBS channels from other states, and TV station live remote news feeds. The live helicopter news feeds are especially exciting, and you got see a whole lot more than what you could find on your local TV news. I have seen helicopter news feeds of riots, wildfires, police chases, etc..



You also got to see the behind the scenes of what is involved in setup of live news remotes/feeds before they went to air (camera setup, news reporter doing her makeup, etc.)! You can use a single dish with a rotator motor, setup multiple fixed mounted dishes, or use a single fixed mounted dish with multiple LNB's to get multiple satellites. An elliptical dish also came out that was specifically designed for fixed mounting and mounting multiple LNB's for coverage of multiple satellites. A protocol known as "Diseqc" is used to control the motor and switching. KU-Band LNB's are available in both Standard and Universal types. Standard RG6 satellite coax is used from the LNB to the receiver and all Diseqc signals are handled on the coax between the LNB and the receiver. No more separate polarity changing motors required like in the C-Band big dish days. I learned that you could even setup a C-Band LNB on a KU-Band dish on satellites that had strong transponders, but channels are limited.



Channels have come and gone on KU-Band and some have moved to internet streaming. My favorite KU-Band satellites are 87W SES-2, 97W Galaxy 19, 103W SES-3 and 125W AMC-21. You can watch Christian movies on the PosiTV channel over on 97W Galaxy 19. Here are more programming highlights:

### **87W SES-2**

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The Patient Channel

LPB1, LPB2 and LPB3 (PBS channels from Louisiana)

CNN Newsource (7 News Feed Channels MUX)

**97W Galaxy 19 (Once was as many as 250 FTA channels!)**  
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Multiple Christian Channels (3ABN, Daystar, The Word Network, LLBN, Amazing Discoveries, Amazing Facts, Hope Channel, Angel TV, TBN, PosiTV)

CCTV Mux (China)

Channels from around the world

**103W SES-3**  
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NBC Network (Mountain, West, East, Central - time zones)

COZI TV

DW Germany

NTA International

Movie Promo

NHK Tokyo, Japan

SBN Domestic

Newsmax TV

CGTN - China

Reach TV

Loop TV

Wild Feeds

**125W AMC-21**  
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Montana PBS

PBS FEEDS

FNX - First Nations Channel

If you want to try something that is definitely a change of pace in your communications avocation, give FTA KU-Band Satellite TV a test drive.



# Get To Know Your Ham Bands

By Mike Maynard – K4ICY

Let me take a moment to bring to light one of amateur radio's dirty little secrets - actually a sad condition of our hobby that just gets looked over or swept under the carpet: Are YOU a ham that is like the poor sap that buys a ticket to enter a major theme park only to spend the entire day sitting in the food court next to the lockers, haplessly missing all the fantastic rides and captivating shows? Are you the kind of awkward person to dress-up for that long-awaited single's dance only to stand next to the punch bowl the entire evening? I am speaking metaphorically about your on-air activity. - - - - -

You say "No".....Are you sure?

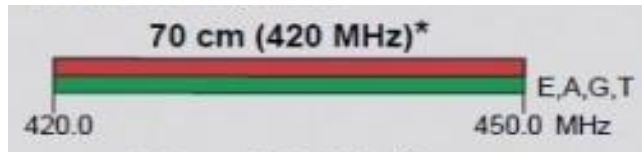
My counsel here is not directed to the avid contester or DXer, but to the newcomers of our proud hobby! I think, upon closer examination, you hams know who you are. You were so excited 'back when' you passed your Technician's license and got your very own call sign, but what? You find yourself owning just an HT and maybe you check-in on that weekly repeater net once-in-a-while. There may still be hope! Maybe all you need is a good and willing Elmer.

The world of amateur radio is an exciting one just waiting to be explored and enjoyed! Its electromagnetic vistas are ever so vast and fruitful, with new people to befriend from all walks of life. There are modes and ways to communicate that you may have never imagined. You may already have the right license class privileges to go on, boldly exploring stranger lands by even stranger means - or most likely, as a 'Tech', you're only one examination away from passing, and being able to sample the "buffet of the ionosphere". With all due respect to VHF/UHF operation, is there actually more to this hobby than a "ker-chunk" and a weekly check-in on a local repeater? You bet your \$40 Chinese HT there is!

Let me take you on a journey - one of shortwaves, dits and dahs, FT8, and "E-skip." Listed here is a brief description of most of our federally-granted frequency bands - bands that each have their own character, needs for different technology and rules. Bands that have been allocated to us by the FCC for our own enjoyment, education pursuit, and final commitment to use in service for our society's safety. People through time have fought hard, even at great cost, to ensure that YOU, the amateur radio operator, have the right to "play radio," because if you don't use it, perhaps there is some money-hungry corporation that can and will.



I don't expect anyone reading this to garner a full knowledge of our band plans and operating modes by this article alone. If you find anything of interest here that you would like to know more about, ask an "Elmer" in your club. Events like Field Day and Special Event Stations are designed for the express purpose to put YOU behind the wheel - maybe to experience your first HF contact to a foreign ham in another land altogether. *They are your ham bands and modes to enjoy:*



**70 centimeters**, commonly referred to as "440," is a UHF (Ultra High Frequency) band that has great value for emergency communications work. Many repeater systems are located here and often all you'll need to get on is a basic HT (hand talkie.) The use of 440 does not come without strings attached since hams are designated as "secondary" users on this band with power and/or use restrictions in some parts of the US, particularly near military bases. The small cost is worth it as 440 has added advantages that make it attractive for ARES (Amateur Radio Emergency Service) emergency communications use. For one, UHF signals better penetrate thick walls like the concrete and metal ones found in office buildings and hospital facilities. The 440 band is also less susceptible to atmospheric anomalies like solar flares and Sporadic-E, and with the help of interoperability networks (D-Star, DMR, etc.) a ham's HT has world-wide voice and data connectivity at just the push of a button. All hams should strongly consider access to 70 centimeters when shopping around for HT's and mobile transceivers.

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**2 meters** is really the 'go to' band for most hams and the vast majority of new hams start here first because all you need is an HT which will get you into many local repeaters. On this VHF (Very High Frequency) band, repeater activity (in FM mode) makes up the majority of activity, though you can use other modes in their respective designated areas of this band including CW, digital, and voice SSB. This band is known as the 'work horse' because most radio clubs host and monitor a flagship 2-meter repeater system that will get you connected to other hams in your area and even into adjacent counties. Unfortunately, either from a lack of interest or from inadequate mentoring many unfortunate hams may never feel the need to venture outside of this band. The "main" 2-meter repeater and their HT is likely all they'll ever use. For those personally risking this sad fate, might I suggest reading on!

As far as signal propagation, 2-meter operation often shares the same Sporadic-E "magic" as 6 meters where stretches of 50 to 200 miles are possible. 2 meters penetrates walls well enough for most indoor work and is often the band of choice for emergency communications workers, as on-the-job volunteers will only supply 2-meter HT capability if a great need arises in the aftermath of a communications disaster.

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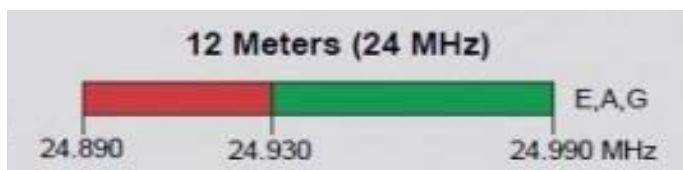
**6 meters** is like a perceivably dormant volcano: dead-quiet most of the time, but a sleeping giant that sometimes wakes without much warning to feed - it is a great VHF band where if conditions are right, you can do about anything that can be done on HF and sometimes better. 6 meters is called the "magic band" because of its mysterious and spurious nature - its ability on short notice to send signals halfway around the Earth. Solar activity has some to do with 6-meter openings, but this effect can mainly be ascribed to cases of "Sporadic-E." Sporadic-E is a special ionization of the Earth's atmosphere's E-layer allowing signals to propagate. Look for these openings around the solstices (June through July and around December.) Other forces of nature can have an effect on VHF openings such as auroral events, meteor-scatter, moon-bounce, thermal ducting, trans-equatorial and grey line propagation. Hams working on 6-meters are usually found using directional beam antennas such as Yagi's and log-periodic antennas, often radiating up to legal-limit power levels to bridge the distant gaps through the ether.

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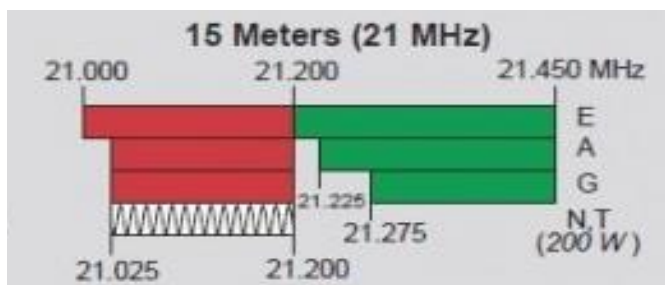
At 1.7 MHz wide, **10 meters** is the largest of the HF (High Frequency) bands - and also a vast and barren waste land when the sunspot cycle is at its minimum. Propagation is extremely erratic and ground wave range is only around 25 miles. A ham may wait years to use 10, but when the sun is active this band is the place to be! When propagation is good, expect world-wide DX communications of thousands of miles with only just a few watts! Openings to any part of the world are unpredictable, so hunting DX entities and QSL cards only adds to the excitement. By the way, 10 meters is the only HF band with a segment that allows hams with Tech licenses voice SSB operating privileges! (yellow section in above diagram)





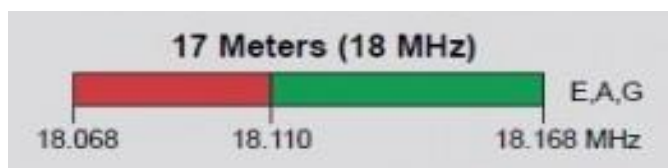
**12 meters** is very small band, but when sunspots are active this band is capable of very great DX distance with little power and meager equipment, making this a great band for mobile and DX operation. When the sunspot cycle is at its low expect only local communications.

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Like 17, **15 meters** is similar to 20 meters but is more influenced by sunspot activity. There's little to no nighttime activity and at the low-end of the sunspot cycle, the band is almost dead, but at the peak of the cycle, 15 meters can get you some great DX distances. Novice and Technician license holders also have CW privileges on this band. (sine wave area in diagram)

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Band conditions are about the same as 20 meters. **17 meters** has an appeal to mobile hams as it offers most of the same benefits as 20 but requires a smaller antenna and is a little quieter. This band is small like 30 but is segmented between CW/Digital (Red) and SSB (Green) operators and allows up to 1500 watts!



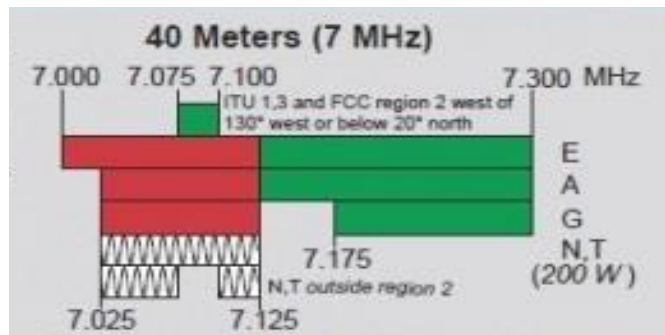
**20 meters** is usually where the serious DX'ers hang out! Daytime conditions here are as good as 40 meters at night. Worldwide communications are common all hours of the day when sunspots are up, but when they're not, the band can close up shop in a hurry. Locally, line-of-sight to 50 miles is often possible but regional communications are generally unlikely and selective one-way propagation is often the case nationally, especially as nighttime approaches. This band has all the advantages of 40 meters, with the quieter nature of higher frequency bands making 20 meters a prime spot for digital modes such as PSK-31, FT8, SSTV and RTTY.

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**30 meters** is a small band like 40 meters, but only CW and digital are allowed. You'll find no broadcast interference here and only a casual number of operators make 30 their abode...that is, until a contest or DXpedition starts up. Then, parking is at a premium! The band, like 20, has somewhat longer range than 40 meters and daytime distances of 1000 miles are common. Hams are, however, limited to only 200 watts PEP (peak envelope power) on this band and when conditions are bad, you might not hear any stations.



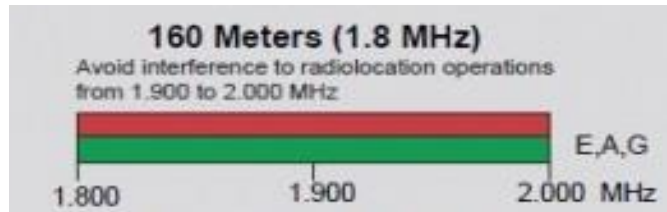


Every ham either loves or hates **40 meters**. Like a popular restaurant, it's always open somewhere but it's often crowded! A 65' dipole antenna will get you regional coverage in the summer daytime with likely distances of 300+ miles, with 500 or more in the winter. 1000+ miles are very common during summer nights with DX (intercontinental) communications more common in the winter. This band, especially 7.2 MHz and above, is also the roost for many gigantic million-watt shortwave broadcasters from countries outside of North America. Between these strongly interfering signals, a ham with a modest station can still often work some great DX, provided you find a spot. 40 meters is not very affected by sunspot activity and it's another great place to hold regional nets. Here, you'll also find a lot of CW and digital activity at the bottom of the band and literally ever spot filled with voice SSB at the top of the band.

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Conditions on **80 meters** are close to what they are on 40 and tend to be pretty reliable day and night. It also isn't very susceptible to the effect of sunspots, and for those reasons is regarded as a "go to" place for HF-based nets and regular group activities. Emergency Communicators can place their 119' dipoles closer to the ground to get NVIS (Near Vertical Incidence Sky wave) communications on a more local and statewide level, but at night, the band can "go long" as propagation reaches out. Summer can bring a lot of atmospheric noise, but the quieter winter propagation can send your signals around the globe! Known as "The Watering Hole," expect to find a lot of established "locals groups 'rag chewing' in 'round tables'" using linear amplifiers - you'll find them warming up the ionosphere 'til the wee hours of the morning on frequencies that have been established for decades. Some you will find to be quite friendly, but others, not so much. Just use common courtesy and look around for a free spot to operate. As with several bands, the CW/Digital portion of the band is separate from the wideband modes of SSB (and even AM,) and access privileges are important to note, so if you wish to work some DX on 80, you might want to try for your Extra Class license.



Known as the "Top Band," because its wavelength is the largest, **160 meters** sits just above the AM broadcast band and is really a MF (Medium Frequency) designation rather than HF. In fact, if your older analog AM radio has band edges that extend outside enough, you can often hear CW hams doing their thing. If you're thinking of 160, a dipole antenna for this band would have to be around 265' long, so you'll often find hams using loop antennas, or modified vertical antennas with an added loading element at the top called a "top hat." Band conditions and propagation on 160 are pretty similar to what you will find on the AM broadcast band, and not quite as much range as the 80-meter band. During the day, propagation is pretty much local, but at night you can expect greater distance. Summer nights bring good regional distances of a few hundred miles with a high amount of QRN (static) from nearby evening thunderstorms. However, in the winter you can expect a hop or two off the ionosphere at a few thousand miles with a quieter noise floor. You'll find a mixture of modes on 160 with CW, Digital and SSB co-habiting in the same space, just like the old days, and you must have a general license or higher.

Aside from a few bands not listed above, hams have access to microwave bands and even higher. Hams in other countries are often working with the (ITU) International Telecommunications Union to procure new band allocations and on the same token, working to also protect our current bands from unwanted interference. There are also hams with experimental grants that are even working with very-low frequencies, below the AM broadcast band.

By the way: ***every ham should have a chart!*** Please visit the following link for the ARRL's band plan chart:

<http://www.arrl.org/files/file/Regulatory/Band%20Chart/Band%20Chart%20-%202011X17%20Color.pdf>

(From *THE PRINTED CIRCUIT*, newsletter of the Tallahassee (FL) Amateur Radio Society. Author: Mike Maynard – K4ICY)

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