

THE SIGNAL

Newsletter of the
Bella Vista area
Radio Club

Arkansas' Largest Amateur Radio Club



February 2024

Monthly Meetings: 1st Thursdays @ 7 p.m.
Arkansas Law Enforcement Training Academy (ALETA)
3424 S. Downum Road, Springdale AR

(HAM 101 Workshop for Newcomers @ 6pm preceding meeting)

Club Calls: N5BVA / W5NX

Repeaters: 147.255 +offset, pl 162.2

Website: www.bellavistaradioclub.org

444.100 +offset, pl 162.2

WEEKLY NETS:

BVRC HAM 101 Net

Tuesdays @ 7 pm on the
WX5NAS Skywarn Link System:

Bentonville – 146.865, -offset, pl 103.5

Fayetteville – 147.315, +offset, pl 97.4

Winslow – 147.315, +offset, pl 110.9

Huntsville – 443.625, +5 MHz, pl 97.4

Green Forest – 145.310, -offset, pl 103.5

BVRC Legacy Net

Wednesdays @ 7 pm on the
BVRC Dual Linked Repeaters

N5BVA/Bella Vista: 147.255, +offset, pl 162.2

N5BVA/Springdale: 444.100, +5 MHz, pl 162.2

BVRC 3830 Roundtable

Sunday Afternoons

4 pm during CST

4:30 pm during CDT

3.830 MHz

NEXT BVRC MONTHLY MEETING

THURSDAY, FEBRUARY 1, 2024 @ 7PM
ARKANSAS LAW ENFORCEMENT TRAINING ACADEMY
3424 S. DOWNUM ROAD
SPRINGDALE, AR

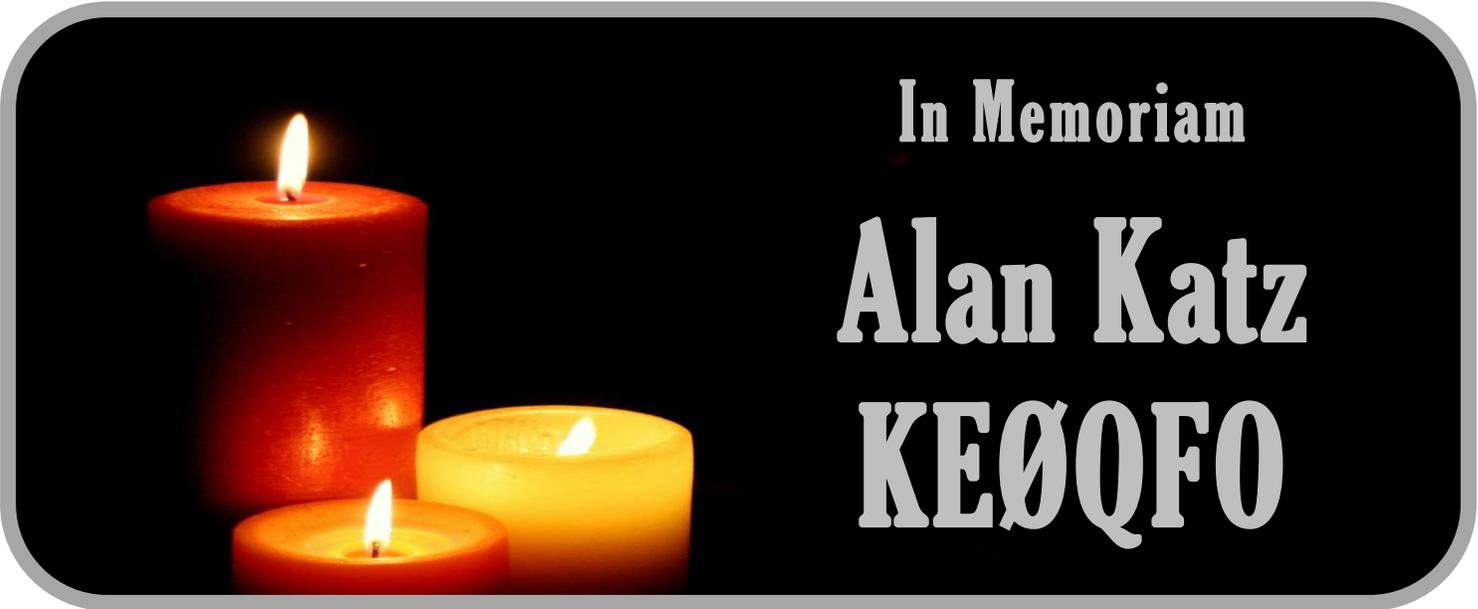
FEBRUARY MEETING INFORMATION

HAM 101 Workshop, 6pm preceding monthly meeting – For our February Workshop, Gregg Harrison – K5GKH will be discussing the new, interesting, and exciting digital mode JS8Call. JS8Call is software using the JS8 Digital Mode providing weak signal keyboard to keyboard messaging for amateur radio operators. It is a derivative of the WSJT-X application, restructured and redesigned for message passing using a custom FT8 modulation called JS8. It's one of the newest modes going. If you use the FT8 mode, this will be a new, interesting, and exciting mode to explore and Gregg's the man to tell you about it.

BVRC February meeting, 7pm – A very special treat is in store for attendees as BVRC welcomes Joel Harrison – W5ZN from Searcy, AR. Joel is a Past President of the ARRL, the current President of the Arkansas DX Association, and the current Secretary of the International Amateur Radio Union. Joel has over 50 years of amateur radio experience, being first licensed in 1972 as a Novice with the callsign WN5IGF. Joel has one of the most extensive ham stations in Arkansas. Check it out: <https://w5zn.org/index.html>. He has amassed 320 confirmed countries or more on all bands, 80-10 meters. He currently has 274 confirmed countries on 160 meters. Joel's topic for the evening will be "What's In Your Station? - Taking Your Amateur Radio Experience To The Next Level". Even though Joel is very well versed in DXing, he could not have achieved what he has without a good station. If you equip your station properly, you will have a station that is ready for anything: DXing, contesting, EmComm, etc. That is what Joel's program will focus on, and will be jam packed with hints, kinks, and station improvements for everyone, regardless of whether you're a 2-meter repeater person or a BIG GUN DX'er!



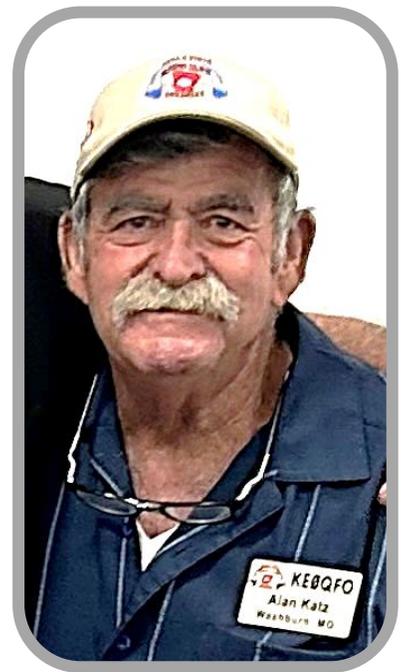
Don't miss this great program! See you there!



It is with very deep regret that we report the passing of one of BVRC's most revered and valuable members, Alan Katz – KEØQFO. Alan became a Silent Key in December 2023 while visiting friends out west.

When it came to the “behind the scenes” duties for the club – whether it be greeting and checking-in club meeting attendees, furnishing baked snacks and helping with equipment set-up/take-down at club meetings, helping set-up equipment and grilling our meals for Field Day, assisting with the annual Christmas banquet preparations, and anything he was asked to help with – Alan was stellar.....he was *always there*. He was very active with weekly club nets – always cordial, positive, and uplifting.

Alan was the recipient of the first ‘BVRC Volunteer of the Year’ award in 2022. It could not have been awarded to a more appropriate individual. He also proudly served his country as a U.S. Marine. We will forever remember Alan in our hearts and his absence will be noticed. RIP Alan.



BOARD MEMBERS

President

Jan Hagan – WB5JAN
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Vice President

Joe Hott – W5AEN
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Board Member At Large and Public Information Officer

Tom Northfell – W5XNA
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APPOINTED OFFICERS

VE Testing Committee

Chair: Don Cooper – KC7DC
don_c@hotmail.com

Elmer 911 Committee

Chair: Vinson Carter – WV5C
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Nets Committee

Chair: Dana Widboom – KI5TGY
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Membership Committee

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Chair: Rebecca Garrett – N5REB
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Glenn Kilpatrick – WB5L
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Don Banta – K5DB
arsk5db@gmail.com

BVRC Welcomes Special Guest Speaker On End-Fed Half Wave At 2024 Inaugural Meeting

The 2024 BVRC radio year launched with a great January program on Thursday the 4th, as world renown author, lecturer, instructor, and avid amateur operator Ward Silver – NØAX graced the 65" TV screens at the ALETA facility, appearing virtually. In no way, however, did the virtual program deter the attendance or lessen the excitement of the evening. It was almost SRO as members and guests absorbed and enjoyed the wonderful presentation from Ward. Ward came to us from his home in the St. Louis area via video hookup.



Probably the most popular wire antenna that is recently being constructed and used in the ham radio world is the End-Fed Half Wave (EFHW) antenna. Due to its large popularity, Ward chose this antenna as his topic for the evening.

Ward said the first wire antenna was a dipole (“di” meaning two antenna legs separated by an insulator and “pole” meaning polarity of which there are two – positive and negative – hence the term “dipole”) invented and used between 1885-1889 by Heinrich Hertz. Since that time there have been myriads of variations of the dipole developed, tested, and used by hams worldwide for generations. The EFHW is one such (and recent) example of those variations of wire antennas.

Ward then discussed the dipole antenna topics of harmonic operation, Off-Center Fed Dipoles (OCFD), Bobtail Curtains, Half Squares, and Bi-Squares.

Ward spoke on the characteristics of the EFHW, the high impedance points of the antenna being affected by capacitance, and a reminder that you are dealing with high voltages with this antenna.

He said that the first EFHW antenna was nicknamed the “Zepp”, as this is the type of antenna that was used for communications aboard the Zeppelin airships of the 1930s and 40s.

An interesting point that Ward brought out is that End-Fed Half Waves, Off-Center Fed Dipoles, and half wave dipoles are all basically the same antenna – the only difference in them is the feedpoint. He said these three antennas all have their pros and cons, the cons being transformer loss, feedline loss, requiring a number of supports, and/or weight. He said it is an antenna system of choice for the operator.



Ward Silver – NØAX in an interview with Tim Duffy – K3LR of DX Engineering

The End Fed Half Wave - NØAX

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Feeding the End

- Steve Dick, K1RF design
- Toroid ferrite core (Type 43)
- 2 primary turns, 14 secondary turns
- Capacitor compensates for winding inductance at upper HF
- Primary turns twisted with secondary for good coupling

49:1 Transformer
 Primary 2 Turns,
 Secondary 14 Turns (Total turns)

To End Fed Half Wave Antenna

Parts List

Toroid Core: Bicon Part #23-504-000301 104-43 Toroid 43 2mm 60mm

Use 1, 2 or 3 cores depending on transformer output to be used.

Capacitor: Bicon Part #11-1249-46-AC2214208 100V 150 pF. You can use TWO 200 pF @ 150V or series.

Antenna: 30m: 10m use a 15m wire (also 10m use a 10m wire, etc.)

WVA: 14 gauge enameled wire

*** when using 3 toroid cores start with a Primary wire of ~12" and Secondary of ~40" long. If 4, 2 cores will use less wire.

To TX Gnd.

Revised: 02/14/2017 - K1FA



Ward then progressed to the feeding of the EFHW and how to build your own transformer (balun) to acquire the best SWR. Optimally, the best balun to use is a 49:1. The best ferrite toroid to use for the transformer would be a Mix-43 toroid.



A homebrew 49:1 balun

Ward concluded the evening with the sub-topic of counterpoises, and asked the question, “What is a counterpoise, anyway?” He said many things can be called a counterpoise – wires, screens, radials, etc.

What does a counterpoise do? – It lowers the impedance at the feedpoint, it couples the antenna to ground, and it *completes* the antenna. The last definition is a critical part of an EFHW antenna.

In an EFHW, the counterpoise lowers and stabilizes the feedpoint impedance. Ward then showed a graphic on how to make a counterpoise and where to attach it and an RF choke on an EFHW.

We thank Ward so very much for his outstanding presentation on the End-Fed and advised him that he’s welcome for a virtual return visit to BVRC anytime!

FROM THE DESK OF THE PRESIDENT



GETTING INVOLVED IN BVRC IN 2024

Well, 2024 is well underway and BVRC is set for an outstanding year with our most important asset, YOU, our members, ready to get involved in many of this year's activities and programs designed to assist you no matter where you are on your journey through our amateur radio hobby.

Recently, the Bella Vista Area Radio Club has grown in membership to well over 200 members. Our membership includes men and women and boys and girls of all ages. Several of our members have moved to Northwest Arkansas and our surrounding communities of Northeast Oklahoma and Southwest Missouri from other places around the country and are new to BVRC. Our membership includes those with decades of experience and those new to the hobby who have just recently experienced the sense wonder of communicating by pushing electrons up a wire and into the sky.

To serve all our members, BVRC activities for 2024 include a wide range of rewarding and fun opportunities. Check our nationally recognized monthly club newsletter, "The Signal", our full featured website, (<https://bellavistaradioclub.org/>) and our BVRC Facebook page for the latest details about these upcoming club opportunities to get involved:

Monthly Club Meetings:

- Ham 101 Workshops
- Feature Presentations

Monthly Amateur Radio License Testing Opportunities:

- Bella Vista Public Library
- The Shiloh Museum of Ozark History – Springdale

On-air Focused Weekly Nets:

- Tuesday 7:00 pm Ham 101 Net
- Wednesday 7:00 pm BVRC Legacy Club Net
- Sunday 4:00 pm BVRC Roundtable

Amateur License and Training Classes:

- Novice License Training Weekend – February 3rd and 10th
- General License Training Class – TBA
- BVRC CW Academy – Begins April 1st

Annual BVRC Signature Events:

- ARRL Single Sideband Rookie Roundup – April 21st
- ARRL Arkansas QSO Party – May 18th
- ARRL Nationwide Field Day – June 22nd and 23rd
- BVRC Annual CW Roundup – August 17th

Very Special Activities Planned for 2024:

- Total Solar Eclipse POTA Activation and Potluck Dinner – April 8th
- Special BVRC Train mobile operation on the M&A Railroad – Late Spring
- Fox Hunting Activities – finding hidden transmitter signals - Summer
- W5NX Special Event Station from Mount Magazine – Fall

I hope to see YOU at many of our events in 2024!

73!

Jan – WB5JAN



NCVEC Releases 2024 – 2028 Amateur Extra Class Question Pool

The National Conference of Volunteer Examiner Coordinators ([NCVEC](#)) Question Pool Committee has released the **2024 – 2028 Amateur Extra Class FCC Element 4 Question Pool & Syllabus** into the public domain. To view the syllabus, click [here](#). The graphics required for the new Extra Class question pool are available within the documents, or separately as PDF or JPG files.

**The new 2024 – 2028 question pool is effective
July 1, 2024 – June 30, 2028**

The new pool contains 603 questions.

If you are planning on taking the Extra Class exam in 2024, be advised if you're using the *current* question pool, you will need to take the exam before June 30, 2024. Otherwise, if you take the exam on or after July 1, you will have studied the current 2020-2024 question pool but will be faced with the new questions from the new 2024-2028 pool. This could cause problems for you when taking the test. If you plan to test after July 1, you will need to study the questions in the new question pool.



CQ HOLLYWOOD?

The Capitol Records Tower building is located in Hollywood, CA. It resembles a stack of vinyl disc records. For decades the red light atop the famous building has spelled-out messages in Morse code.

It was the former president of Capitol Records, Alan Livingston, who got the idea to have the light on top of the building send out a signal in Morse code. The word chosen for this secret message was "Hollywood". When the building opened in 1956, Samuel Morse's granddaughter Leila Morse had the honor of turning the light on.

The light has been sending out the same message ever since—with a few exceptions. The year 1992 marked the 50th anniversary of Capitol Records, and to celebrate this, the message was changed to "Capitol 50" for the whole year. The light keeps sending out Morse code signals even today.



BVRC VE REPORT

From Don Cooper – KC7DC

BVRC VE Coordinator

January, 2024

BELLA VISTA – January 13

CONGRATULATIONS!

William Lopez – Callsign Pending - New Technician!

Tyler Baumgardner – Callsign Pending – New Technician!

Larry Fleury – Callsign Pending – New Technician!

Christopher Faulhaber – K5CFI – New General & Amateur Extra!

Matthew Tosh – Callsign – New Technician, General, AND Amateur Extra!

Next session: Sat., February 10, 2 pm
Bella Vista Public Library
11 Dickens Place
Bella Vista

SPRINGDALE – January 21

CONGRATULATIONS!

Mike Choquette – Callsign Pending – Fayetteville – New Technician!

Tom Salerno – Callsign Pending – Siloam Springs – New Technician!

Next session: Sat., February 10, 10 am
Shiloh Museum of Ozark History
118 West Johnson Avenue
Springdale



The ARRL Youth Licensing Grant Program

If you, your friends, or your relatives know of a young person 17 years of age or younger that is interested in taking the Technician Class license exam and obtain their first amateur radio license, here is an excellent economical way to get them started.

The ARRL Board of Directors approved the Youth Licensing Grant Program at its July 2021 in Hartford, Connecticut. The program went into effect on April 19, 2022.

How it works:

- ◆ At the exam session, the standard test fee is \$15.00. However, persons 17 years of age or younger pay a reduced exam fee to the ARRL VE testing team of only \$5.00. Proof of age is required at the session. Any of the following is acceptable for proof of age. **Please bring a copy of the ID or IDs you choose to give to the VE testing team:**

PHOTO ID (1 required)

- State Driver's License or Restricted Driver's License
- Government issued Passport
- Student School Photo ID card
- State Photo ID card

If a photo ID is not available, **two non-photo IDs** are required:

- Birth Certificate
- Social Security Card
- School ID card
- School or Public Library Card

VERY IMPORTANT – The youth candidate *must also obtain and have with them at the exam session, their FCC Registration Number (FRN)*. To obtain their FRN, they need to go to the FCC registration page ([click here](#)), then click "REGISTER" in the center box and follow the prompts from that point.

In a few days after passing their test and the paperwork is processed, they will receive an e-mail from the FCC with a link to pay the FCC \$35 license fee. They, or any payer, will have to pay the fee up front. However, they can then e-mail or snail mail the Youth Reimbursement Form to the ARRL (the form is available from the testing team at the exam session), and the ARRL will mail a \$35 reimbursement check to the fee payer.

In essence, it will cost them only \$5.00 to obtain their first license. – Outstanding!

Their new license is good for 10 years. Then in the future, if they choose to upgrade to the General and/or Amateur Extra license, upgrades are free! When/if the upgraded license is issued, it will replace the old license with a new grant and expiration date. **TAKE ADVANTAGE OF THIS GREAT PROGRAM FROM THE ARRL!**

REMINDER: SIGN-UPS ARE GOING ON NOW FOR THE BVRC TECHNICIAN CLASS, FEB. 3



BVRC CW ACADEMY STARTS APRIL 1!



The 3rd BVRC CW Academy will begin Monday, April 1, 2024! If you are interested in learning and adding Morse code to your amateur radio experience, if you enjoy a classroom atmosphere, and if you would like to join other beginning students in learning the code, here is a heads-up for you to sign-up for the classes.

Event – Bella Vista area Radio Club CW Academy

Location – Arkansas Law Enforcement Training Academy (ALETA), Springdale

Instructor/Coach – Don Banta, K5DB

Class Schedule – Classes will be held every two weeks on Monday evening, with one exception: **There will be 10 class sessions: April 1, April 15, April 29, May 13, May 28 (Tuesday after Memorial Day), June 10, June 24, July 8, July 22, and August 5.**

(A virtual class orientation will be held Thursday, March 14.)

Homework – There will be homework assignments for each class.

Class Times – 6:30pm to 8:30pm

Class Objective – At the completion of the course, students will be able to send and receive all letters, numbers, mainly used punctuation marks, and prosigns at 5 words per minute. A handsome Certificate of Completion will be awarded to each student passing the final CW test and completing the course.

Miscellaneous information – Students are encouraged to obtain their own CW straight key and code oscillator. If this is not possible, Don has some mini-key oscillators available for loan-out during the course.

Students need to have a G-mail address.

The class will consist of 10 students. **There are 5 slots remaining.**

To sign-up – Contact Don at: ar5k5db@gmail.com



Welcome

Welcome New BVRC Members!

Chuck Haley – NS5C – Springdale
Chris Faulhaber – K5CFI – Bentonville
Rustin Treat – KD5OWD – Springdale
Larry Wilms – Bella Vista
Tyler Baumgardner – KJ5DZI – Bella Vista
Matthew Tosh – AEØXR – Neosho, MO
Ryan Hansen – Call Pending – Centerton
David Matheny – Call Pending - Springdale
Larry Fleury – Call Pending – Bentonville
Mike Choquette – Call Pending – Fayetteville
Tom Salerno – Call Pending – Siloam Springs

Strays.....

*NBC Broadcasts
Outstanding Feature Story
On Amateur Radio*



In case some of our members are unaware, NBC recently broadcasted an excellent feature on amateur radio, reported by veteran broadcaster Harry Smith. If you haven't as yet seen it, click [here](#).

FIELD DAY 2024



Thanksgiving, Christmas, and New Years have once again passed, with lasting memories of get-togethers with family and friends.

The Winter Solstice has also come and gone. What does that mean to the ham operator? It means the days are once again getting longer and nights shorter. And yes, we may still have to endure a few last shots of winter, but *IT'S TIME TO PREPARE.*

Prepare for what? For the biggest event in amateur radio. Yes, before you know it, it will be here: FIELD DAY 2024. In only about 5 months, "CQ FIELD DAY" will once again fill the airwaves, June 22-23.

MARK YOUR CALENDAR NOW FOR AN EXCITING 2024 FIELD DAY ADVENTURE WITH THE BELLA VISTA area RADIO CLUB!

Start thinking now about how you would like to be a part of this awesome event. Would you like to help with site set-up (exciting!) or take-down? Bring a special dish for the Field Day feast? Radios, antennas, power sources, accessories, food, drinks, etc. are all part of the plan that you can help with. Do you plan to operate SSB? CW? Digital?

Remember, this is the largest amateur radio event in the United States and Canada, and only happens once a year.

So plan on coming and staying for a good length of time. With the station activity, fellowshiping with other club members, and just enjoying the "World of Field Day", the time will fly, and you'll have a ball!

BVRC FIELD DAY LICENSE TESTING!

The BVRC VE Testing Team will once again be on hand to conduct a special Field Day VE test session for all those wishing to test for their first ham license or license upgrade. The test session will be held at 2 pm on Saturday, June 22!

If you plan to participate this year and would like to lend a helping hand when the 4th weekend in June rolls around, watch for more information on the BVRC website, Facebook page, and *THE SIGNAL*. And of course, FD coordinating plans will be discussed in greater detail as FD nears.

**PREPARE NOW !
FIELD DAY COMETH !**

TO ALL MEMBERS OF THE BELLA VISTA area RADIO CLUB: Are you an ARRL Member?



If not, why not join the 160,000 members of the ARRL?

BVRC is an ARRL affiliated club with over 60% of the membership as members of the American Radio Relay League. However, we also have members who have not joined. The yearly membership fee for the ARRL is \$59.00 (\$4.90/month). This membership includes a subscription to QST, the iconic publication of amateur radio, which each month includes great articles about all facets of our hobby.

Along with QST being sent to you as you choose each month, digitally or hard copy, as an ARRL member you will enjoy these great benefits:

- **ON THE AIR** – A digital subscription that is also available to members. On The Air is geared to new hams coming into the hobby with loads of articles to help get them started on the right foot.
- **QEX and NCJ** – Your membership also gains you access to yet 2 other great amateur radio periodicals, QEX-dedicated to the technical side of the hobby and NCJ-National Contest Journal dedicated to the radio sport of contesting.
- **ARCHIVE and PERIODICAL SEARCH** – Members have access to search for QST articles 1915-2011, and indexes for ARRL's QEX, NCJ, and Ham Radio publications.
- **FREE LICENSE RENEWAL** – When it comes time to renew or modify your license, ARRL will process, or help you with, your renewal/modification (if you wish to forego doing it yourself via the FCC Universal Licensing System) for free as a member.
- **OUTGOING QSL SERVICE** – If the need arises for you to exchange QSL cards with a foreign ham, as a member, ARRL can serve as your mail carrier and handle your overseas QSLing chores. The savings in postage you accumulate through this service alone can pay your membership dues many times over.

- **YOUR LEGAL ADVOCATE** - ARRL supports legislation in Washington, D.C. that preserves and protects access to existing amateur radio frequencies as a natural resource for the enjoyment of all hams. As a member, you contribute to the efforts to preserve our privileges.

- **MANY OTHER BENEFITS** – When you join ARRL you can avail yourself to becoming involved in a plethora of other activities that ARRL offers such as: continuing education, regulatory information branch, public relations, ARRL Field Organization, ARRL sponsored contests, operating awards, ARES (Amateur Radio Emergency Service), hamfests and conventions, the VEC (Volunteer Examiner Coordinator) Program, and many other ARRL member features.

Recently, Joel Harrison – W5ZN, past ARRL President, and current President of the Arkansas DX Association (and our featured guest speaker for BVRC's February meeting) made this statement to ADXA members, but can be applied to all of us:

“Your ARRL membership is critically important beyond the DXCC program. There is no other organization in the United States – NONE – that promotes and defends the amateur radio service at the FCC, in Congress, and many other agencies and organizations. Internationally, ARRL is a vital member of the International Amateur Radio Union team defending amateur radio at the International Telecommunications Union and at World Radiocommunication Conferences that have the authority to take the radio spectrum, shuffle it like a deck of cards, and hand it out to whoever they see fit.

Let me state this one more time – there is no other organization in the United States that does this – NONE! If amateur radio is important to you, then ARRL should be just as important. Oh, you say you don't like ARRL because of some of the decisions that were made? Well, I served on the ARRL board for 22 years, four years as ARRL President, and it may come as a shock that I didn't agree with everything either! Collectively, though, the ARRL board reaches decisions based on member input and that has maintained a strong amateur radio service for over 110 years.”

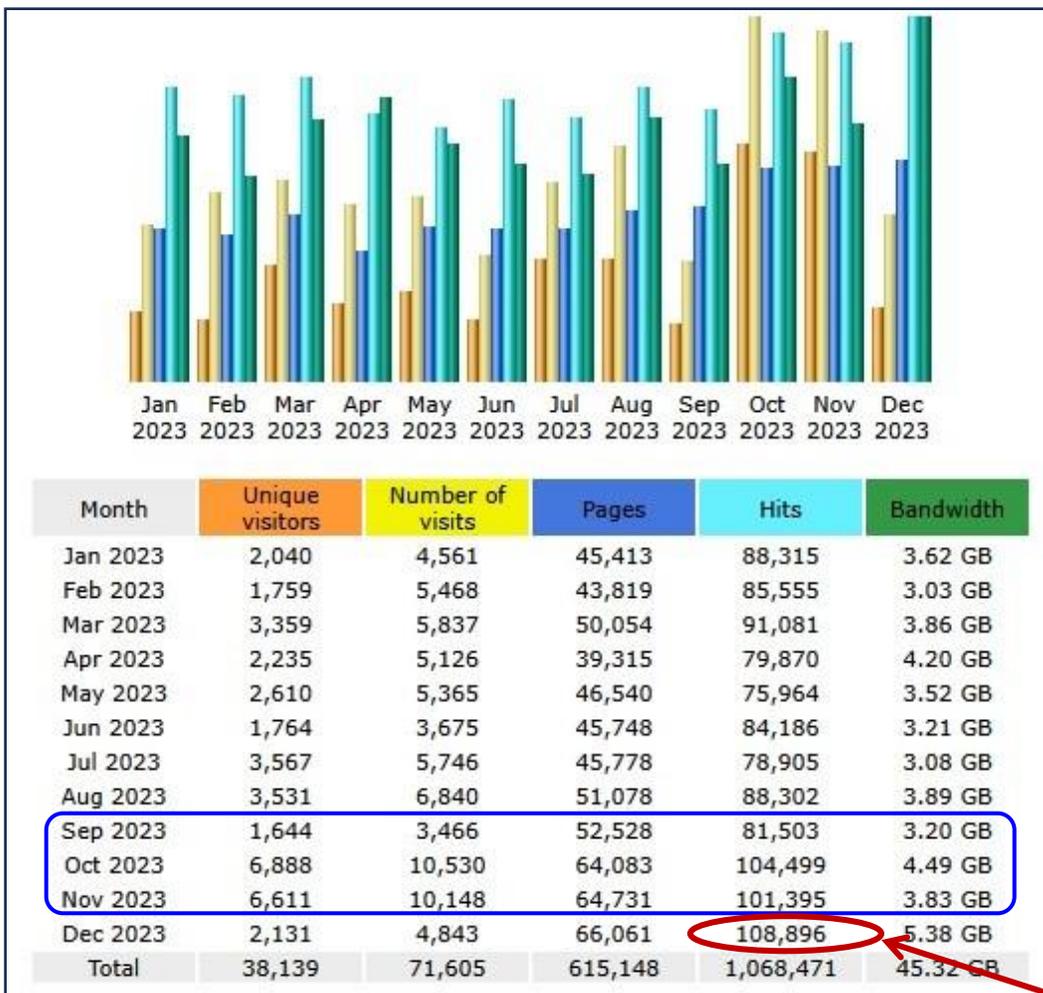
To view all the membership options: <https://www.arrl.org/membership#dues>

To apply for a new membership or renew your current membership:
<https://www.arrl.org/membership>

If you're not an ARRL member, you're missing out.



UNBELIEVABLE! – It’s about the only word that can describe what BVRC’s website accomplished for the final three months of 2023. Each month was a record breaker with over 100,000 hits each month, culminating in the grand total for 2023 of **ONE MILLION HITS**. This remarkable milestone is attributable to the outstanding job our webmaster, Glenn – WB5L, does with the website. Perhaps you have “cruised through” the website looking for particular items or information, but have you ever taken the slowed-down a little and taken the full tour by clicking each option in each department? If you haven’t try it sometime! You will be amazed at the HUGE amount of information available there. Mega kudos to you Glenn for this magnificent accomplishment!!!



SSTV FROM THE INTERNATIONAL SPACE STATION

By Mike Schroeder - NØALJ



Periodically, the International Space Station downlinks Slow Scan TV (SSTV) on 145.800 MHz. Just recently, I was able to catch a couple of SSTV photos from a scheduled event on Oct 27th through November 1st, 2023. It's so exciting to be able to receive signals from Outer Space and photos are even better! This was an event to verify a replacement piece of hardware in the service module of the onboard SSTV system. My HF side of SSTV operation used the

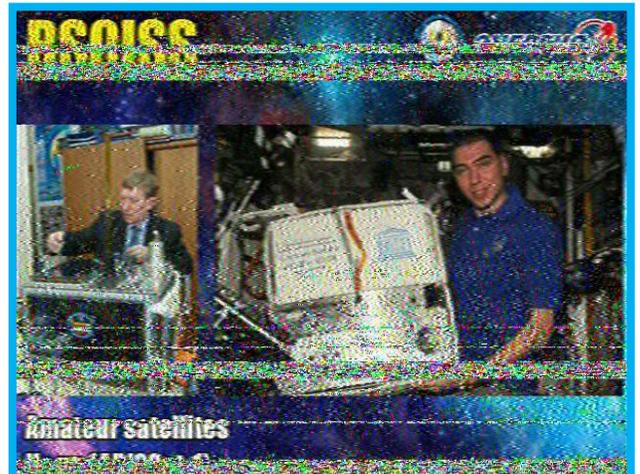
Yaesu FT-450D HF transceiver and the Tigertronics Signalink USB sound card/radio interface. The Signalink USB interface works with virtually all radios and features its own built in sound card, is powered from your PC's USB port and offers complete radio isolation. When you order your Signalink USB, you specify the radio type so that it ships with the proper cables needed to interface to your radio and your PC. You also have the option of ordering a radio specific plug and play jumper module, which I highly recommend, as it plugs in place of the jumper wires you would otherwise have to configure for your radio. This greatly simplifies installation and completely eliminates the possibility of installing the jumper wires incorrectly. The Signalink comes with a nice manual to help you configure your PC's audio support for using the interface with MMSTV and various other ham software like WSJT-X for FT8.

The Signalink USB interfaces to my HP Notebook PC, running Windows 10, using only a single USB cable and to my radio using a second cable that plugs into the back of the radio's data port. This leaves the front HF microphone connection still available

for my Yaesu MD-100 desk microphone! The majority of SSTV operators I have encountered use the freeware for Windows operation known as MMSSTV written by JE3HHT - Makoto Mori. This easy to use program can be downloaded from the Hamsoft website and is quick to set up. I am running version 1.13A. My 2-meter radio, a Yaesu FTM-200DR (at right), also has a rear data port! All I had



to do was order a second SignalLink Yaesu data cable. This way, I can quickly switch cables from either my Yaesu FT-450D for HF or my Yaesu FTM-200DR for 2 meters (see my previous article I wrote in The Signal Newsletter for HF SSTV operation in the April 2023 issue. You can view that issue from the BVRC website archive: <https://bellavistaradioclub.org/wp-content/uploads/2023/04/signal.04.23.pdf>). If you want to do this too, you will have to make sure that your HF radio and 2 meter radio are the same manufacturer and have rear data ports so that the same plug and play jumper module supports both radios. Fortunately, Yaesu makes this easy.



With MMSSTV software, SSTV pictures are automatically received and saved historically. You don't even have to select the SSTV mode and you don't even have to know the I.S.S. orbital pass times. This allows you to turn on your radio and PC, start-up MMSSTV and leave it on waiting to catch passes of the I.S.S. even when you are busy with something else or not even at home. The following are a couple of good links of operational status of Ham Radio operations aboard the International Space Station:

<https://ariss-sstv.blogspot.com/>

<https://www.ariss.org/current-status-of-iss-stations.html>

The website www.radioreference.com also has a Forums section with a subforum titled Space And Satellite Monitoring where I.S.S. SSTV events create a lot of excitement. That is where I happened to initially learn about this past event.

2023 BVRC 30TH ANNIVERSARY WORKED ALL STATES AWARD

FINAL STANDINGS

Congratulations to these BVRC members who have worked the fifty states during BVRC's 30th anniversary year of 2023!

#1 Michael Kemper – W5KMK

#2 Jan Hagan – WB5JAN

#3 James Wood – N5ZMX

#4 Mark Whatley – K5XH

#5 Mike Calvi – KF5RUO

#6 Tom Thibeault – KN4SLP

#7 Don Cooper – KC7DC

#8 Dennis Tune – W9DCT

#9 Mark Sutherland – K5DXR

#10 Bill Durham – KG5ZCI

#11 Luke Williams – AE5AU

#12 Glenn Kilpatrick – WB5L

#13 Robert Hill – K5NZV

#14 Nick Kennedy – WA5BDU

#15 Joe Dunn – WA5JD

16 – Tom Northfell – W5XNA



HAM 101 – FT8

How to Determine When a DXpedition Uses FT8 Fox & Hound Mode and When It Uses Multi-Stream (MSHV) Mode

By Don – K5DB

If you’ve ever watched the DX spotting websites, in the comments/info column you possibly have noticed phrases such as “FT8 F/H” or “MSHV” (see red notation below). If you’re relatively new to the FT8 mode and still familiarizing yourself with WSJT-X software (if that is the software you have chosen to use), these abbreviations may seem foreign to you.

MY DX SUMMIT

Spots Spot Search Daily DX News Radio Arcala

Filters: DX country: Rodriguez Island

Spotter	Freq.	DX	Time	Info	Country
JF2KOZ	14084.0	3B9AT	14:00 30 Dec		Rodriguez Island
IV3JSL	14084.0	3B9AT	13:21 30 Dec	FT8	Rodriguez Island
SQ7KM-@	14084.0	3B9AT	13:15 30 Dec	MSHV	Rodriguez Island
OE8DDX	14084.0	3B9AT	13:04 30 Dec	trn x qso	Rodriguez Island
ON4TH-@	18095.0	3B9AT	12:14 30 Dec	QSY'ed HERE	Rodriguez Island
OM5FM	18118.0	3B9AT	12:12 30 Dec	FT8 +00dB from MH10 703Hz	Rodriguez Island
DL6RA	18118.0	3B9AT	12:02 30 Dec	up 5 to 10	Rodriguez Island
IK1GPG	18118.0	3B9AT	11:33 30 Dec	UP 5	Rodriguez Island
IV3JVJ	14240.0	3B9AT	10:23 30 Dec		Rodriguez Island

This station is presently operating on the non-standard FT8 frequency-14.084 (The standard 20-meter FT8 frequency is 14.074)

This station is using Multi-Stream mode

Fig. 1 – DX Summit spotting website screenshot

If that’s the case, here’s your answer: F/H stands for “Fox and Hound” mode, and MSHV stands for “Multi-Stream” mode. Let’s explore them.....

Unlike using your software normally on the standard FT8 frequencies, these are specialized FT8 modes *normally used by DXpeditions*. If you do not know about Fox and Hound and have never used it, you will need to understand it in order to work these DXpedition stations as around 95% of the time, this is the mode they will be using. That's what this article is all about.

The screenshot shows the FT8 software interface with two main tables: Band Activity and Rx Frequency. The Band Activity table lists various stations with their UTC, dB, DT, Freq, and Message. The Rx Frequency table lists stations with their UTC, dB, DT, Freq, and Message. A red arrow points to the 'Monitor' button in the control panel, with the text 'Click this tab for immediate conversion to Fox & Hound mode' written in red.

Band Activity					Rx Frequency				
UTC	dB	DT	Freq	Message	UTC	dB	DT	Freq	Message
025830	-17	0.1	2668	K5DB HB9HSJ RR73	025700	-10	0.1	2668	CQ HB9HSJ JN47 Switzerland
025830	0	0.1	1801	C02R0 KG7AV CN94	025715	Tx		1102	HB9HSJ K5DB EM26
025830	3	0.0	447	CQ EA8FJ IL18 Canary Is.	025730	-13	0.1	2668	CQ HB9HSJ JN47 Switzerland
025830	10	0.2	1688	CQ EA5HM IM99 Spain	025745	Tx		1102	HB9HSJ K5DB EM26
025830	3	0.0	2401	CQ KP4ZZ FK68 Puerto Rico	025800	-18	0.1	2668	K5DB HB9HSJ -15
025830	-4	0.3	381	CQ I1RJP JN45 Italy	025815	Tx		1102	HB9HSJ K5DB R-18
025830	-9	0.1	551	KD6KHK SV90FF -18	025830	-17	0.1	2668	K5DB HB9HSJ RR73
025830	-3	-0.0	1536	VA7AMV KF6I -04	025845	Tx		1102	HB9HSJ K5DB 73
025830	-9	0.1	2586	PY7XC NN6XX CM87					
025830	-1	0.7	2739	W7MEM E77N RR73					
025830	-9	0.4	795	K4ZH EA2AI R-13					
025830	-14	-0.5	704	CQ KB5RG EMO2 U.S.A.					
025830	-5	0.1	1650	WE2DX SV5AZP RR73					
025830	-21	0.1	751	W8TL IW9FRA JM68					
025830	-18	0.2	2544	KA4FLA F5HNQ IN98					
025830	-5	0.5	194	AF7CW F4RYA IN19					

Fig. 2 – Standard FT8 operation screenshot

First, let's discuss what *Fox & Hound* mode is, how it works, and why DXpeditions use this special mode:

The objective of any bona fide DXpedition is to make as many QSOs (contacts) on as many different bands and modes as possible, thus helping amateurs all over the world to complete and acquire the many DX awards and endorsements that are available.

In FT8 DXpedition mode – or Fox and Hound mode – QSOs between the DXpedition (“Fox”) and the stations calling them (“Hounds”) can be completed much more rapidly and in greater numbers than standard FT8 operating. The biggest advantage for the DXpedition in running F/H mode is that they can transmit up to five signals (called “streams”) simultaneously, thereby allowing QSO rates up to about 500 per hour in ideal conditions. For example, in F/H mode the “Fox” can work a new station while *also* completing the same QSO with another station (you will see this later in this article). In other words, they can work 2 stations per stream at the same time. So obviously, if they are running 5 streams (for example) they can work up to 10 stations at the same time.

Also most of the time, a DXpedition will move away from the normally used FT8 frequencies to a special, isolated frequency (see 'blue' notation in Figure 1) to accomplish these objectives: #1) prevent adding hundreds of extra signals caused by the DX pileup to the already busy standard FT8 frequency, #2) moving to a vacant, isolated frequency helps the DXpedition station in the receiving of only the signals from the stations attempting to work them, and #3) moving to an isolated frequency also reduces the QRM that would occur on a normal FT8 frequency and helps the DXpedition station in receiving. Again, DXpeditions normally use this special FT8 mode 95% of the time.

Sometimes however a DXpedition will, instead of Fox/Hound, operate MSHV mode. It is similar to F/H mode in that the DXpedition station can run separate streams but normally works 1 station per stream. The F/H mode that is built-in to the WSJT-X software is not used for MSHV. Basically to work a DXpedition in MSHV mode, you operate as normal as we will see.

So if you're unfamiliar with these modes you are probably now asking, "How do I figure out which mode the DXpedition is running and how do I contact them with these modes?"

The fact is, distinguishing both modes is very easy. – *Just pay attention to the messages that the DXpedition station is sending.*

The most noticeable difference between the two modes is that in Fox/Hound, the DXpedition station (the Fox) will transmit two different messages to two different stations at the same time and on the same audio frequency (or "stream"), something that does not usually happen in the standard multi-stream signals of MSHV.

Shown below is a screenshot from DXpedition station H44WA operating from the Solomon Islands. At this particular moment the station is operating on 15-meters and running 5 streams, working up to 2 stations on each stream, so H44WA has the capability of working up to 10 stations at once per each transmission:

						15m
001000	-7	0.1	631	~	KC2SST H44WA	-24
001000	-9	0.1	751	~	C02VDD H44WA	-21
001000	-8	0.1	691	~	W4WV H44WA	-06
001000	-7	0.1	571	~	W60AT RR73; KX1X <H44WA>	-18
001000	-6	0.1	511	~	K3JGJ RR73; AB1HO <H44WA>	-16

As you see in the example on the previous page, H44WA is transmitting five streams on the audio frequencies of 511 Hz, 571 Hz, 631 Hz, 691 Hz, and 751 Hz. However, the streams on 511 and 571 Hz contain two different messages. On the 511 Hz stream, one is sending RR73 to K3JGJ and another sending the signal report to AB1HO. The 571 Hz stream is concluding the contact with “RR73” to W6OAT, and the other message is sending the signal report to KX1X. By seeing these types of messages, you can conclude that H44WA is more than likely running Fox/Hound mode.

Also notice that in WSJT-X Fox/Hound mode, the two different messages on the same audio frequency (stream) are always shown in a single line, one beside the other.

When you are in WSJT-X Fox/Hound mode, *remember YOU are always the Hound.* If you have the latest version of WSJT-X, you will see *shortcut tabs on the left side of your monitor screen, one of which is the ‘H’ tab (HOUND).* (See ‘red’ notation in **Figure 2**) Clicking this tab will immediately place you in Fox/Hound mode. (Note: After working the DXpedition station, disengage Fox/Hound mode if you intend on returning to normal operating!)

Now, let’s examine the *Multi-stream MSHV mode* :

MSHV is a multi-stream variant of WSJT-X. A DXpedition station using MSHV will usually transmit 2-5 frequency streams. Normally, the QSOs the DXpedition station is making will be listed separately on each line as shown below. *HOWEVER* – the DX operator does have the option to work 2 stations per stream, just as in Fox/Hound mode. Here is an example of a DXpedition station in *typical* MSHV mode:

----- 20m					
020830	8	0.1	237	~	KR4FK TX7L +08
020830	5	0.1	356	~	WB2NVR TX7L -15
020830	6	0.1	296	~	NW9H TX7L RR73

In this example, DXpedition station TX7L (operating from Marquesas Island) is working 3 different stations, but the QSOs are being made separately with KR4FK, WB2NVR, and NW9H.

Ok...so now comes the question, “If the DXpedition station programs their software to work two stations per stream in MSHV mode, it’s going to look just like Fox/Hound mode, isn’t it? – Yes..... So, how do you know which mode they are running so that you can set your WSJT-X software accordingly? The best way to know is to lookup the DXpedition on their website (most major DXpeditions will have their own website), and look for an “Operating Plan”, “General Information”, etc. tab. You should be able to find which mode they will be running there. (See illustration on the following page.)

General Information

- This is a 3 day-only DXpedition to Trindade Island;
- The operations will occur on 10, 12, 15, 17, 20, 30 and 40m – ONLY!;
- FT8 operations will be conducted using MSHV software protocol – ONLY;
- Did you note any suspicious activity using our callsign? – Pse check our real time logging page;
- Are you not sure if you are in the log? – Please work us again and check our real time logging page;
- If you already have PYOT confirmed on a specific band/mode from previous DXpeditions, please, do not call us, let 's give chance to those who don 't!;

The second best way is to watch in the comments section on the spotting websites (DX Summit, DX Heat, DX Watch, etc.) and you should see in the info or comments column from other operators as to which mode they are running in that column. (See 'red' notation in Figure 1)

And just as with F/H mode, a station operating in MSHV mode transmits on the even cycle time periods (00 or 30). As indicated in the left column in the example on the previous page, TX7L sent these 3 messages at 02 hours, 08 minutes, and 30 seconds (even cycle).

So, what configuration do you use in your WSJT-X software to work a station running MSHV?

Here's the nice thing about this mode – *you configure nothing...you do nothing*. Simply operate as you normally would in standard FT8 operation, except you will probably *be operating on a special frequency* the DXpedition station has chosen. Personally, when I work a station that is in MSHV mode, I usually set my transmit frequency 500-1500 Hz above the DXpedition station's transmit frequency and that usually works.

When I work a station in Fox/Hound mode, I set my transmit frequency *at least* 1000 Hz or more above the station's operating frequency.

So in review, let's look at the pros and cons of these special FT8 modes:

FOX and HOUND MODE

Advantages:

- With the same number of streams (and therefore signal level) it allows up to twice as many simultaneous messages. As stated earlier, using 5 streams, the DXpedition station could theoretically work up to 10 QSOs at the same time.
- The "Fox" always transmits in the even periods – 00 and 30 seconds. Notice the time of the QSOs in the H44WA DXpedition example on the left side: 00 hours, 10 minutes, 00 seconds (even cycle). Consequently, there should be no confusion about the period to be used by the callers, who logically must transmit in the odd periods (15 and 45 seconds) if they want to be heard.
- Callers must use frequencies at least 1000 Hz *above the transmit frequency* of the DXpedition station, while the ongoing QSOs take place always *below 1000 Hz*. Usually, the DXpedition's F/H transmit frequency will be in the 200-500 Hz range. You will also notice that when the DXpedition station answers you, they will "pull you down" to their frequency to work you. You will see your previous transmit frequency *automatically change to their transmit frequency*. By doing this, the callers can't interfere with the ongoing contacts making it easier for the DXpedition station (Fox) to complete the contacts with the callers (Hounds). Also, you'll notice that when the DXpedition station sends you "RR73", the QSO *is automatically terminated at that point*. Your WSJT-X software 'transmit enable' function will cease, and will NOT send your "73" message back to the Fox. This saves the DXpedition station from seeing thousands of return "73" messages from all the callers, including you. It also saves *you* from having to send the extra "73" message transmission. Do not be alarmed at this – it is a normal Fox/Hound mode function. If you receive "RR73" from the DXpedition station, you're in their log.

Disadvantages:

- It requires prior knowledge by the callers (the "Hounds") on how to configure the program and use the special Fox/Hound protocol. This is what this article is all about. Taking the time to absorb the information in this article will enable you to possess the correct knowledge and F/H protocol that seems not to be the case with many FT8 operators.
- It should only be used by true DX expeditions, not for special events, activations, etc.
- Callers (Hounds) must transmit above 1000 Hz in order to be decoded by the Fox. This restricts the bandwidth that callers can use and also creates trouble for those that don't know the Fox/Hound protocol.

MSHV (Multi-stream) MODE

Advantages:

- Callers do not have to make any configuration changes or have any knowledge beyond knowing how to use the standard FT8 mode and protocol.
- It can be used not only for true DXpeditions, but also for other smaller operations such as special events, activations, etc.
- Callers can use any frequency to call the DX, so more bandwidth is allowed.

Disadvantages:

- Even though the station should be sending on the even cycles, in MSHV mode the DX operator can choose whether to transmit in odd or even periods, which can lead to confusion for most inexperienced callers who sometimes end up transmitting in the same cycle as the DXpedition station. (Most experienced DXpedition operators are aware to transmit on the even cycle on both F/H and MSHV modes.)
- Callers can use any frequency to call the DX, even frequencies already being used for the ongoing contacts of the DX, possibly causing them trouble to complete the contacts.

In closing, here are two very important points to remember:

- 1) **Whenever you are operating in Fox/Hound mode [only] and you click “Enable TX” to begin calling the DXpedition station, *your WSJT-X software is programmed to cease transmitting after 4 cycles.*** This is to prevent you from “going to bed and then getting up the next morning to see that your computer worked the station”.

Not only is this dishonest, it is also illegal. FCC rules state that you must be present and in control of your station while transmitting.

As a matter of fact, the ARRL Volunteer Monitor Program recently sent an advisory notice to an operator in Nebraska concerning lack of control of his transmitter, making FT8 contacts unattended. Again, FCC rules state transmitters must be under control of the licensee at all times.

This is why the F/H mode ceases to transmit after 4 cycles – to keep you honest and at the controls of your station. After the software stops transmitting, just click the “Enable TX” tab again and the software will once again reset to transmit for 4 cycles. Keep doing this until you either make contact with the station or decide to try another time when the pileup isn’t as large. (Pileups are always large at the beginning of a DXpedition operation, but dwindle as the operation progresses.)

2) Regarding anything you do on FT8, remember this – If /when you attempt to work a DXpedition station, *you are engaging in a DX pileup*. Hundreds and hundreds of stations worldwide will also be calling the DXpedition station.

The two big words that you need to exercise in a DX pileup (on any mode!) are PERSEVERANCE and – above all – **PATIENCE**.

To give you an idea of patience and perseverance, there are times when I have only had to call a DXpedition station for a couple of minutes...maybe up to 10 minutes, and I got an answer. Then, there have been times that I have had to call for 45 minutes to an hour due to the pileup being so enormous, and I still didn't get them, but worked them a few days later. Naturally, the amount of time it takes to work a DXpedition station depends on the amount of stations calling them in the pileup and – of course – band conditions. So be prepared to implement the “Two Ps” – Patience and Perseverance – along with a positive attitude, and eventually you will get through and work the station.

Enjoy operating the special FT8 modes of Fox/Hound and MSHV and go work 'em!

And.....

If you haven't begun using the FT8 mode but are planning to, or if you've just started, here is a very good FT8 User Guide written by Gary Hinson, ZL2IFB, that you can download.

CLICK **HERE**

(If you have any questions, feel free to e-mail me: arsk5db@gmail.com)

**This should get us through whenever
band conditions are lousy.....**



***CREATE
YOUR OWN
BAND OPENING!***



This month's featured country:



Heard Island is part of the Territory of Heard Island and McDonald Islands. It is an Australian external territory comprising a volcanic group of mostly barren Antarctic islands, about two-thirds of the way from Madagascar to Antarctica. The group's overall area is 144 sq. mi., and it has 63 mi. of coastline. The islands are among the most remote places on Earth. They are located about 2,200 nautical miles southwest of Perth, Australia and 2,070 nautical miles southeast of Madagascar. The islands, which are uninhabited, can only be reached by sea which from Australia takes two weeks in the vessels normally used to access them.

An American sailor, John Heard, on the ship *Oriental*, sighted Heard Island on November 25, 1853, en route from Boston to Melbourne. He reported the discovery one month later and had the island named after him. His wife Fidelia Heard provided the first written description and drawings of the island. William McDonald aboard the *Samarang* discovered the nearby McDonald Islands six weeks later, on January 4, 1854. The islands were formally claimed by the United Kingdom in 1910 and transferred to Australia on December 26, 1947.



Location of Heard Island



Heard Island, by far the largest of the group, is a 142 sq. mi. mountainous island covered by 41 glaciers (the island is 80% covered with ice) and dominated by the Big Ben massif. The much smaller and rocky McDonald Islands are located 27 mi to the west of Heard Island.

Heard Island has no ports or harbors; ships must anchor offshore.



Having an Antarctic climate, it is a bleak and inhospitable island indeed. Daily average temperatures on Heard range from 38.7 to 41.4 °F in summer and 30.6 to 32.5 °F in winter.

The main difficulty on the island for DXpeditions is the wind. – Average monthly winds speeds are 18-20mph with gusts as high as 110 mph.

The only evidence of man ever settling on the island are the hulls of past scientific and weather outpost stations, now no longer in use.

In this cold climate, plant life is mainly limited to grasses, lichens, and mosses. Low plant diversity reflects the island's isolation, small size, severe climate, the short, cool growing season and, for Heard Island, substantial permanent ice cover.

Heard Island is free from introduced predators and provides a crucial breeding habitat in the middle of the vast Southern Ocean for a range of birds. The surrounding waters are important feeding areas for birds and some scavenging species also derive sustenance from their cohabitants on the islands. Nineteen species of birds have been recorded as breeding on Heard Island.

Penguins are by far the most abundant birds on the islands, with four breeding species present which include the king, gentoo, macaroni and eastern rockhopper penguins. The penguins mostly colonize the coastal area grasslands of Heard Island..

In the amateur radio world and since Heard Island is uninhabited, the only way to contact this rare DX country is by a DXpedition team going there.

The very first amateur radio operation from Heard Island was in 1948 by A. Campbell Drury, using his callsign VK3ACD. Afterward, operations occurred about once every ten years, often associated with scientific expeditions, hence a large number of QSOs was inhibited. DXpeditions can only operate during the Southern Hemisphere summer months of February-April due to weather.



The first major DXpedition devoted exclusively to amateur radio occurred in 1983 when the island was activated with the callsigns VKØJS and VKØNL. The DXpedition made 14,000 QSOs and cost \$50,000.

A second team also visited Heard in 1983 with the callsign VKØHI. They garnered 30,000 QSOs with that trip costing \$40,000.

14 years passed before the next major DXpedition traveled to Heard in 1997, with VKØIR going on the air in February of that year. They made 80,673 QSOs, with a price tag of \$310,000.

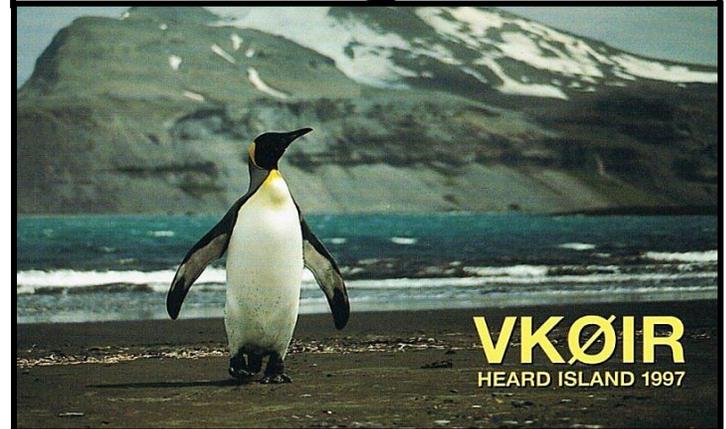
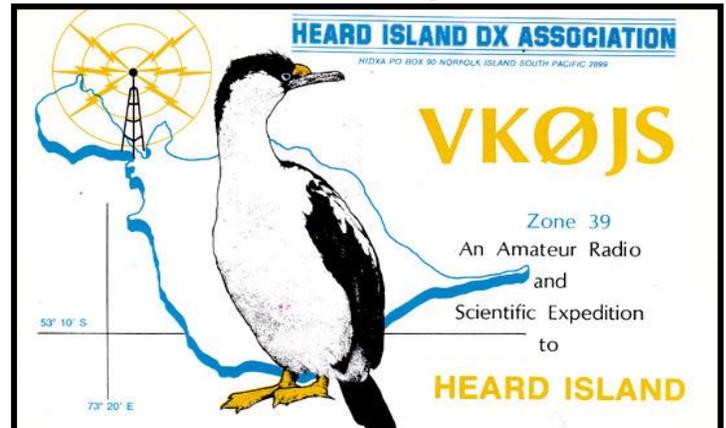
19 years after VKØIR, and the last major DXpedition to go there, the team of VKØEK, operated in the month of April 2016, with the largest number of QSOs being made from Heard thus far – 120,000. The cost of this DXpedition was a whopping \$550,000.

Transportation has always been by far the greatest portion of the cost of getting to Heard Island, and the dramatic rise in cost is predominantly due to increased transportation cost. Since it has only been 8 years since the last DXpedition endeavor on Heard, it may be a while before arrangements and funding will be made to be able to activate this rare DX entity again. It currently stands at #22 on the Club Log Most Wanted List. Keep on the lookout, though!

If you would like to see an excellent video on the VKØIR DXpedition, click [here](#).



QSL cards and photos from past Heard Island DXpeditions:





Gourmet Coffee Made Especially For Hams

By Don – K5DB

This past December along with 16 other hams, I was an activation station for the 12 Days of Christmas annual event. The group used a private chat room to enable us to coordinate who was going to be on which band and mode at a given time. While using the chat room, I noticed several of the stations talking about the great coffee they were drinking from the Home Brew Coffee Company. So, I went to the company's website and investigated it. In doing so, I found out several things that I would like to pass along to our members, since there's not hardly a ham I know that doesn't like coffee.....



The company was founded just last year in 2023. It was created by Steve Eilers – W3BIZ. Steve is a ham radio operator and coffee enthusiast.

He says, "The term "Home Brew" is an Amateur Radio (Ham Radio) term meaning "home made" or "made yourself" and the company's theme is based upon that.

Coffee is a favorite drink for the millions of Amateur Radio operators in the USA, so we wanted to create something unique for this amazing community. We are the first and *ONLY* company to cater to the HAM Radio community with over a dozen delicious coffee flavors and blends, perfect for the HAM Shack!"



After researching Steve’s website, I discovered nifty names for his different types of coffee, especially “Ham Shack” and “Morse Code Mocha”, hi hi.

Home Brew Coffee Company has just about anything you would desire in coffee.

The biggest factors I found about them is they roast and grind the coffee beans the SAME DAY they ship it to you, so it arrives as fresh as possible. They say no other coffee company in the world does this. They also donate 10% of all profits to the ARRL (I was impressed with this).



They also offer a 20% discount on your first order, by using the discount code at the top of their webpage.

I took the plunge and ordered a 2-lb. package of the dark roast Home Brew, and received free shipping by ordering it in a larger amount. It won’t take long for the XYL and myself to use it up...it is VERY good coffee.

My next order will be the sample pack, as I would like to see what the other blends they offer taste like.



You can order the coffee in regular grind, espresso grind, or whole bean. They also offer coffee for Keurig coffee makers in K-Cups and K-Pods.

If you want to tour their website, here’s the link: <https://homebrewcoffee.com/>.

I just wanted to pass this info along to all our coffee drinking club members. If you want to help a fellow ham with his business, and if you want to support the ARRL while enjoying a great tasting cup of coffee, you might throw a little business Steve’s way.



LAUGHTER

A ham saw his wife slaving in the kitchen one day.

“Hey honey, I bet you could do with some help around here. Can I do anything for you?”, he asked. “You bet dear,” she said. “Take this bag of potatoes, peel half of them, and put them in the pot to boil.”He did.



Ready for winter POTA operations!

She drove me to DXing.....

It's the only thing I'll be forever indebted to her for.

**A successful OM is one who makes more money than his XYL can spend.
A successful YL is one who can find such a man!**

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