

THE SIGNAL

Newsletter of the Bella Vista Radio Club



VOL. 2, NO. 12 **MARCH 2020**

Monthly Meetings: 1st Thursdays @ 7 p.m., Highland Christian Church, 1500 Forest Hills Blvd, Bella Vista
Club Call: N5BVA • Repeater: 147.255 +offset, pl 162.2 • Website: www.bellavistaradioclub.org

WEEKLY NETS:

3830 kHz Roundtable - Sundays @ 4 pm

147.255 Repeater Net - Wednesdays @ 8 pm

Wide Area Net - Wednesdays @ 9 pm on the N5UFO NWA Linked Repeater System

FEATURES IN THIS ISSUE:

- * New hams magazine, "On The Air"
- * 2020 SSB Rookie Roundup
- * BVRC VHF/UHF Nets
- * NWA Link System Information
- * HF Beam and Vertical Antennas
- * Why Volunteer?

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NEXT BVRC MONTHLY MEETING

THURSDAY - MARCH 5, 2020 - 7 PM
HIGHLAND CHRISTIAN CHURCH
1500 FOREST HILLS BLVD.
BELLA VISTA, AR

MARCH MEETING

*ENJOY THE AMATEUR
RADIO HOBBY WITH PURPOSE*

Denny Johnson - K5DCC will be coming to us from Omaha, AR in Boone County as our featured speaker for the March 2020 meeting. Denny holds an Extra class license and has been a ham for over 50 years. Denny says, "Even though I'm one of the "older" hams, I embrace the new technology and love to experiment with especially the digital side. As creator and host of the DigiCommCafe Mighty Network and my "RADIO ON THE ROCKS" BlogCast, I am passionate, in these later years of my life, to be an ambassador for amateur radio. I especially like to excite and encourage the younger generation who, with their smartphones, feel that ham radio is just too old fashioned. And so, I wake up every day with purpose to build interest in the amateur radio hobby to keep it alive and well." Don't miss this great program with a unique topic! See you then!!!

FEBRUARY MEETING IS SUPERBLY GREAT WITH A QUALITY PROGRAM ON FT8!

(Meeting photo courtesy K5XK)

For the first time for a BVRC meeting, the new and exciting mode of FT8 was presented during BVRC's February 2020 meeting. Not only was a new mode presented, but a breakaway from our standard program protocol was performed by not just one speaker – but four. The four speakers for this month's program were: Mark Whatley – K5XH, Steve Norris – W5KI, Paul Dixon – K5YH, and Don Banta – K5DB. Although these four hams are serious FT8 mode operators, BVRC has several other hams that use it extensively as well, and they contributed very good remarks and information during the discussion phase of the program!



Steve – W5KI, one of the foursome speakers during the FT8 program

Mark kicked things off with an excellent history of the evolution of FT8, which was invented by Joe Taylor – K1JT, of Princeton University. Joe was a Nobel Prize recipient in Physics 1993. Mark illustrated by graph the enormous surge of FT8 as opposed to the other ham radio modes since its introduction in 2017. Mark then shared the main characteristics of the FT8 mode, its basic operation, and the pros and cons of the mode.

Steve then stepped-up to the mic and discussed what is required to operate FT8. He illustrated that a soundcard/interface is needed to join your PC to your radio. He discussed the various types and price ranges of this device and that you can usually obtain either a used one or a new one at a price range that you can afford. The software needed for FT8 operation, as well as the software to keep your computer clock in synchronization with all the other FT8 stations (critical), is free. So, if you already have an HF station on the air, your only investment to get on FT8 would be the interface, and some newer model radios already have an onboard soundcard, so you may not even have to spend extra money in that area. Steve then discussed the various logging programs that can be used, as well as a brief rundown on setting-up the software.

For his portion of the program, Don showed the basic steps of being on the air with the FT8 mode and making actual QSOs. He shared that even though FT8 is more or less an “automatic” mode, in that the software does 95% of the work for you to make a contact, there is a bit of strategy involved in using the software to make contact with the station you’re shooting for. Don said he is a CW lover first and last, but FT8 has proven to be a new, fun, and exciting mode for him. So much so, that he has worked all states with all confirmed contacts being made via FT8.

As a matter of note, all four speakers have acquired Digital DXCC awards (working and confirming a minimum of 100 countries.)

Paul then took the stage to explain the newest mode of FT4, which is also programmed for use in the FT8 software. Just as “4” is one-half of “8”, so it goes with FT4. FT4 operates twice as fast as FT8. Whereas FT8 operates in 15-second cycles, FT4 operates in 7.5-second cycles. It is mainly used for contesting (such as Field Day), and many of the recent DXpeditions have added FT4 to their arsenal of operational modes, as it is faster and enables them to make more contacts in the same amount of time. This results in many happy hams worldwide with working a new country on FT4 and/or FT8. Paul has already worked many countries and DXpeditions on FT4, some of them ATNOs for him! (ATNO stands for “All Time New One”)

John – N5SU, one of our esteemed Sunday afternoon 3830 Roundtable moderators, also interjected for the meeting attendees, the additional software program of JT Alert. This software is also free, and when downloaded works in conjunction with the FT8 software. It can be programmed to voice alert the operator when a new state or country comes on the band, whether the new station uses Logbook of the World or not, and a plethora of other options that the operator can tailor to their likes and needs. Thanks, John, for bringing that valuable information to the program!

The program concluded with the best way to illustrate FT8 – let the attendees see it in action. Paul brought a long run of RG8-X coax, along with a clamp-on mobile antenna mount, and Don brought his Yaesu FT-450d that he uses for HF mobile operation and his Signalink interface. The transceiver and laptop were setup in the meeting room and the coax ran out to a Hustler mobile whip with a 40-meter resonator on Paul’s vehicle.

FT8 was designed for operating with weak signals – that is the main beauty of the mode. So, with a 40-meter mobile antenna clamped to the luggage rack on an SUV and operating the transceiver at 50 watts output, the members were treated to a couple of stateside contacts made with no problem. But, the highlight of the live demonstration came when we worked Puerto Rico, again with no problem at all.

Want a new and vastly different ham radio experience? – Try FT8!!!

Attention New Hams in BVRC!!!



The ARRL has kicked-off 2020 with a brand-new magazine for beginning hams, “On The Air”. *On the Air* magazine is the newest ARRL member benefit to help new licensees and beginner-to-intermediate radio communicators navigate the world of amateur radio. Delivered six times a year, the magazine will present articles, how-to’s, and tips for selecting equipment, building projects, getting involved in emergency communication as well as spotlighting the experiences of people using radio to serve their communities, and those using it for enjoyment.

Whether you just passed your Technician exam or have been licensed for years but never got around to making contacts or starting a project, *On the Air* can help you take your interest in radio to the next level with clear, useful information.

Print Editions

ARRL offers two magazines options for members: [QST](#), the official membership journal of ARRL and, beginning in 2020, *On the Air*, aimed at helping new and emerging radio communicators get active and on the air! Eligible US-based ARRL members can elect to receive one of these in print when they join, or upon their annual renewal.

Digital Editions & Archives

If you are a current ARRL member, US or International, you can access all ARRL digital magazines via your web browser or the ARRL mobile apps. See the [User Guide](#).

ARRL Magazine Apps

Members can download these free ARRL Magazine apps to access the digital editions of *On the Air* and *QST*.

*(Editor's note: I neither work for the ARRL, nor am I compensated by the ARRL, but I have been a member for over 50 years. This new magazine, coupled with the iconic QST, and all the many, many other membership benefits of the ARRL will be more than worth it to you to join if you have not as yet. The membership fee is \$49.99 per year. Take 50 bucks and divide it by 12 months. This equals \$4.16 per month. That's currently equal to roughly 2 gallons of gasoline. And you will get a lot more out of ARRL's publications and benefits than you ever will a couple of gallons of gas. Most importantly, you will be supporting the **ONLY** voice United States hams have in defense of our frequency spectrum, our operating privileges, and our hobby. I have already viewed the digital edition of *On the Air*, and it is excellent. If you are not yet an ARRL member, give it some *serious* thought.)*

Attention New Hams in BVRC!!!

ELMER 9-1-1

BVRC is pleased to announce the evolution of our HAM 101 Department to the new Department title of ELMER 9-1-1.

Gregg Doty – N5RGD has decided to step down as HAM 101 Chairperson, to devote his time to his expanding business. Gregg has been instrumental in the 'launching' phase of this department, of which we render him our most sincere thanks and appreciation. We also send the very best of wishes to Gregg with his new business, in which some aspects of it will be of great benefit to not only BVRC members, but all radio amateurs! We will be featuring a story on Gregg's new website in the near future, so keep watching *THE SIGNAL* for all the info!

We also welcome Paul Dixon – K5YH as the new Chair for our newly-named department, geared to helping new hams coming into the hobby and into BVRC, to get started on the right foot.

Paul is already in the planning phase and working hard on continuing to develop and improve this department. Paul is an excellent personage to head-up this department with almost 60 years of experience, and he has some excellent tools in the works that will benefit all of our new hams coming into BVRC.

When an emergency occurs, who do you call? – 911.

When you are in need of out-of-the-ordinary help, who do you call? – 911.

That is the heartfelt purpose and objective of ELMER 9-1-1 — to enable our new ham members to obtain help with all the different aspects of our hobby, by contacting and getting help from experienced hams to help them through their dilemma(s). KEEP WATCHING *THE SIGNAL* FOR UPDATES ON THIS PROJECT!!!

From The Desk Of The President



Wow! I can't believe that this is the March 2020 edition of *The Signal*. Time seems to be moving very quickly and many things are happening or about to happen.

The new BVRC website has more features and is user friendly (thanks to Glenn WB5L!). It is our hope that you go to it often. We welcome any suggestions you might have. We are excited about the new Elmer 9-1-1! Paul Dixon – K5YH has volunteered to take on the coordination of our new program. Elmering is the lifeblood of our hobby and camaraderie is the glue that holds it all together. Paul has decades of knowledge and experience and is a very valuable resource. The goal of Elmer 9-1-1 is to connect new amateur operators with Elmers in a timely manner. We are in the process of identifying Elmers and their area(s) of experience and expertise.

At the time I am writing this message, there are plans in the works to have a Technician class this spring. It is my personal belief that BVRC should offer one initial license class each year. After these participants get licensed, we need to have Elmering in place and available.

Finally, I encourage all of us to consider some of the following opportunities this year:

- Go to the hamfests in Arkansas and the surrounding region. They are great opportunities to connect with new and old friends.
- Upgrade your license
- Try a new mode
- Participate in a contest
- Learn CW
- Use the forums on our website
- Become a member of ARRL if not already
- Be an Elmer
- Invite someone to a BVRC club meeting
- Participate in Field Day
- Be *radioactive* on the nets and roundtable
- Participate in the Arkansas QSO Party
- Become a trained weather spotter
- Suggest a topic for an upcoming presentation

BVRC values your membership. I hope to see you at the next BVRC meeting.

73! - Tom, W5XNA



ATTENTION NEW BVRC HAMMS!

GET READY TO PARTICIPATE IN THE ARRL ROOKIE ROUNDUP!!!

The ARRL Rookie Roundup is a contest aimed at amateurs who have been licensed for three years or less. This six-hour event is held three times per year (April for SSB, August for RTTY, and December for CW).

Several of the BVRC experienced operators will be opening-up their shacks to host this event. If you presently do not have HF privileges and/or do not have an HF station, you may operate from one of the experienced operator's shack locations and enjoy/learn the fun world of HF! You will also learn the fun of logging contacts. (The experienced operator will be there as an Elmer and control operator for you, but they are not allowed to operate or log.)

You will be using a callsign chosen by your control operator, but if your station wins in one of the categories, you will win a certificate with your callsign on it:



If you were first licensed any of the years 2017-2020 – no matter which class of license you hold – you are eligible to participate! Several new BVRC hams have already signed-up for this fun event!

Be the next to sign-up for Sunday afternoon, April 19!

Sign-up today by contacting:

Tom-W5XNA: w5xna@arrrl.net

Paul-K5YH: k5yh@arrrl.net

or

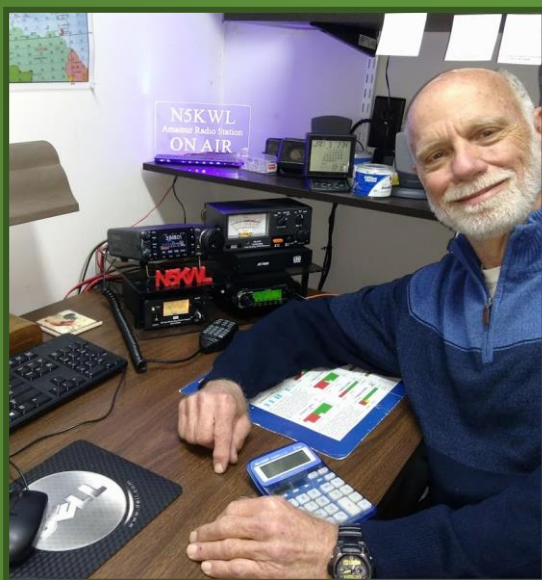
Glenn- WB5L: wb5l@arrrl.net



If you have seen a past BVRC program that you really enjoyed or was of special interest to you and you would like to add it to your own collection, most of the past programs are always available on DVD at the welcome/registration table at BVRC meetings. These programs are first-rate productions by Steve – AB9YN and are sure to please.

Pick one, or several, up at the next BVRC meeting!

Welcome, Congratulations, and Thank You!!! BVRC Announces New Officers



Tem – N5KWL



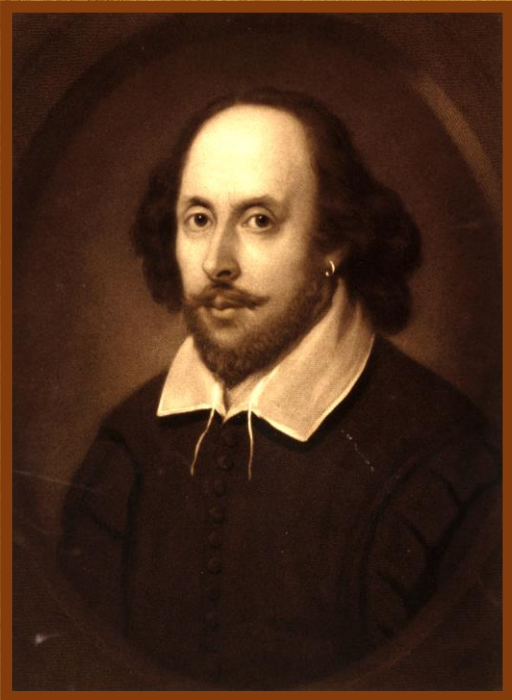
Paul – K5YH

Bella Vista Radio Club is pleased and excited to announce our two newest officers: Tem Moore – N5KWL – TECHNICAL OFFICER, and Paul Dixon – K5YH – ELMER 9-1-1 CHAIRPERSON. Both of these fine individuals are not only experts in the areas they have accepted to serve, but they're also two of the greatest persons you'll ever meet.

Tem was unanimously elected to succeed Steve Werner-K5SAW, and Paul was appointed to succeed Gregg Doty-N5RGD.

We look forward to great things from these gentlemen as 2020 progresses, and we know they will not disappoint.

THANKS GUYS!!!



You don't have to write like William "Bill" Shakespeare in order to write an article for The Signal. --- In fact, we prefer articles without the words "thy", "whilst", "'tis", and "'oft".

Working on a new kit or homebrew project?? Have you recently received a rare or interesting QSL card to share?

Received a new radio award? Or, do you have a cool ham radio related photo or some comments to share with other club members? Maybe you

have acquired a new piece of equipment, or constructed a new antenna?? Taken a trip focused around ham radio to share an experience?? Why not write an article for The Signal?? The article can be short or long, simple or elaborate. Please include pictures! We're always looking for material for the BVRC newsletter, and feedback from our readers goes a long way toward keeping the newsletter interesting! So why not give it try?? Write an article and send it to The Signal editor, and we'll get it in ther! It's fun, and at the same time your contribution helps support BVRC and our hobby! Articles can be submitted electronically or on paper, whichever way you feel most comfortable with. Send pictures, too! As The Signal editor, I particularly look forward to putting a new issue together when I have material submitted by our club members! Hope to hear from you soon! & 73! (Send it in!)

Submit your material to:

Via e-mail: arsk5db@gmail.com

Via regular mail: Don Banta, K5DB
3407 Diana St.
Springdale, AR 72764



BVRC VE REPORT

February 8, 2020



Congratulations !!!

**Gary L. Siefman – KI5IGD – Bella Vista
New Technician!**

**Stephen E. Garner – KI5IGE – Witter
New Tech and General!**

*Test sessions are conducted each 2nd Saturday of the month, 2 pm, at the
Highland Christian Church, 1500 Forest Hills Blvd. (AR-279) in Bella Vista.*

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

**NEW BVRC
MEMBERS!!!**

Welcome

RICK MARSHALL – KG5TOA – SPRINGDALE

MURRAY HARRIS – W5XH – FAYETTEVILLE

DON PIRANTY – KI5IDP – ELKINS

QRZed Mr. T



Several BVRC members are also members of the Ozark Wireless Society, which meets each 4th Saturday morning of the month at 10 am at the Shiloh Museum of Ozark History in Springdale.

The 'Top Cat' at the museum is Mr. T – a very personable feline who has been on the museum grounds for several years. He knows no strangers and is always looking for a friendly hand to scratch his head. At the last OWS meeting he invited himself right into the meeting room, bounded on top of the meeting table, and began making his round of greetings to everyone. OWS is one of the oldest radio clubs in the NW Arkansas area, and is comprised of both newcomer and veteran operators. Everyone is welcome to come and enjoy good discussions. The donuts are always fresh and the coffee's always hot.

**WHEN
ALL
ELSE
FAILS...**

**AMATEUR
RADIO**



*The fastest growing
amateur radio club in
Northwest Arkansas*

*Thank you, members,
for your support!*

DON'T FORGET OUR VHF/UHF WEEKLY NETS!

BELLA VISTA RADIO CLUB WEEKLY 2-METER NET

The BVRC weekly 2-meter net meets each Wednesday evening at 8pm local time on 147.255 / pl tone 162.2. You do NOT have to be a BVRC member to participate. All licensed amateurs are welcome to join us for on-the-air fellowship and good discussions. This is an excellent way for all new hams to become accustomed to operating protocol and procedure, and gain experience in operating through a repeater. Join-in on the fun!

WIDE-AREA NET

The Wide-Area Net meets each Wednesday evening at 9pm local time on the NW Arkansas Linked System. All licensed operators in the NW Arkansas/SW Missouri/NE Oklahoma area have a standing invitation to join-in on great discussion topics, announcements of upcoming events, good ol' VHF/UHF fun, and sometimes very useful information on this Net. Hams from all over the area participate in this Net, and a good time is experienced by all each week. ***NEW HAMS ARE ESPECIALLY WELCOME!*** You can access the Linked System through any 1 of 8 repeaters!!! The list of the repeaters used in the Linked System can be found [here](#). See you then!





Members' Corner

**From Ron Evans – K5XK
BVRC Public Information Officer**

K5YH – Paul (formerly KK5II) has graciously accepted the committee chair of the Club's Ham 101 program, now to be known as Elmer 9-1-1. Paul has big shoes to fill following Gregg – N5RGD, who resigned to concentrate on building his new N5RGD.com graphics service (for QSLs, etc.). Thank you, gentlemen!

KCØDX – Ed has joined the Sunday afternoon '3830 Roundtable' moderator group. Gerald, NZ5S (ex-KA5ZYY) is also assisting (with WB5L, N5SU & K5DB) in the NCS rotation.

WBØAUQ – Sincere condolences to Bob & Rosalee on the untimely passing of a 2nd son, Don / KBØDON, after a fatal fall at Don's home in KS.

AB9YN – Continued prayers for Steve & XYL Susan, after Susan experienced a brain stem clot. Following 'Super Clot Busting' meds, Steve reports Susan is doing well!

ACØQU – And prayers for Bill's XYL who fell, resulting in a broken hip.

WAØTDQ – Congratulations to Hugh for celebrating his 96th birthday on Feb 3rd. [Hugh](#) has been licensed for an amazing 53 years!

KG5ZCI – After learning about "JT-Alert" at the February meeting, Bill promptly worked his 5 remaining states needed for 'Worked All States' on the FT-8 mode. Kudos, Bill!

N5SG – Bill, who is Mayor of rapidly growing Centerton, reports that in the wake of recent devastating storms, several of his first responders are interested in getting licensed.

K5DXR – New member Mark reports a number of Siloam Springs first responders are also interested in becoming new hams; Mark is helping organize a new Technician license class.

Prairie Grove / Lincoln area hams – Shawn/KI5HKK, Randy/KI5EQS, Rob/N5SQY, and Ivan/KG5SPC, are organizing local meet-ups with [OM](#) Gene/W5SXV and carpooling to BVRC meetings.

K5GO – Stan was back in the Caribbean on tiny Cayman Brac just in time for the big ARRL CW DX Contest. Stan's Cayman Islands call is ZF9CW. This year, he went multi-op with Bill Priakos – W5SJ from Ft. Smith (who presented BVRC with a fine DX program last year), and world renowned DXpeditioner Bob Allphin – K4UEE. The three of them participated in the Multi-Operator Single Transmitter category using callsign ZF5T. They amassed 4,455 QSOs with 328 multipliers for a whopping score of 4,383,720 points.

K5DB – Don recently received his DXCC award endorsement for contacting and confirming a whopping lifetime total of 275 countries using SSB, Morse Code, and FT-8 digital modes. Don will be an interviewee in an upcoming “[QSO Today](#)” worldwide amateur radio podcast.

KM5FY – Joda has donated an MFJ [Antenna Analyzer](#) to the club. He is now concentrating on his photography hobby, and offers free portrait photography to club members. Contact Joda via his email address on [QRZ](#).

KW5SVB – Scotty is investigating ‘EFHW’ HF antennas.

W6WRK – Caleb is the proud owner of a vintage Hammarlund [HQ-170](#) receiver recently acquired from Jake, N4EW.

AB5UN – [John](#), one of our VIP seniors who started the BV club in 1991, is using a YAESU [FTM-3200DR](#) transceiver, gifted by son John, WB9O, also a BVRC member.

K5VR – Stan is wrestling with a perplexing issue with his Cushcraft HF [Log Periodic yagi](#) antenna, while enjoying a new ICOM IC-7610 transceiver.

KG5TTZ – Welcome back to John who is meeting with our breakfast group at 8am, Saturdays at Rosita’s (Macadoodle’s plaza, Hwys 71 & MO ‘OO,’ just north of the state line).

N5KWL – When not maintaining the NWA Link System, [Tem](#) has been experimenting with Arduino microcontrollers, from an ARRL [Arduino Projects](#) book won as a club door prize.

K5UNX – Wayne is now assisting with the Club’s video effort by uploading meeting presentations to the club’s YouTube [Channel](#).

K15FPA – Dennis is participating in the BVRC 2M and Wide Area Nets from his QTH in Gentry, using a YAESU FTdm-400 and homemade Ground Plane.

KD5UFY – [Ken](#), a former BVRC member, Repeater Trustee and retired city Police Chief, is dipping his toes into local politics, running for a seat as a Benton County Justice of the Peace.



BVRC PROGRAMS NOW ON YOU TUBE!

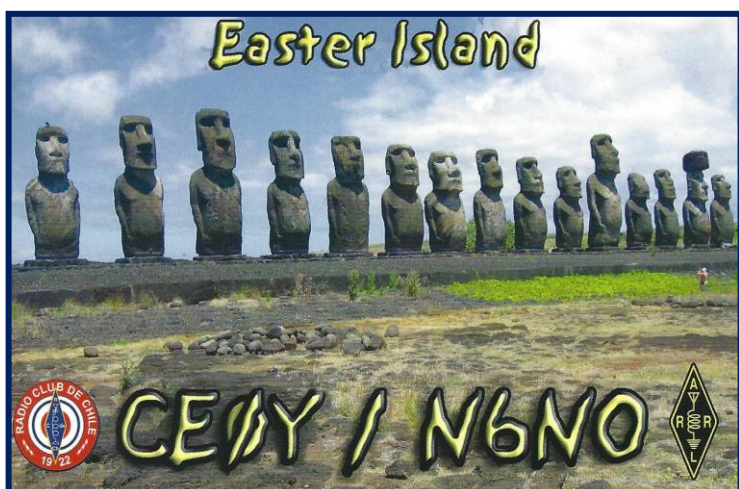
BVRC is pleased to announce that you can now view many of our past programs on the BVRC YouTube Channel, and more are on the way in the future! A great feature in case you were unable to attend some of them. Follow this link to:

<https://www.youtube.com/channel/UCNVXFVXrXn294ML5xAMgi-w>

A huge word of appreciation to Wayne – K5UNX, BVRC Secretary, for his labors on this project in uploading the videos to the website!!! Thanks Wayne!

Curious QSLs

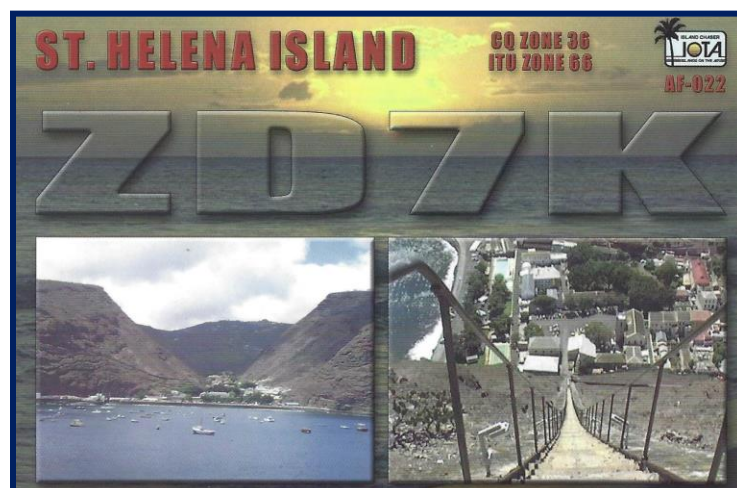
From Don-K5DB: Here are a couple of interesting QSLs from yesteryear that I've always enjoyed having in my QSL collection:



CEØY/N6NO, EASTER ISLAND – The landmark icon of Easter Island is, of course, the statues that are located there. There are hundreds of these monoliths, called “Mbai”, which were believed by the ancients to be a source of “mana” or spiritual force.

Merv-N6NO, was on a solo DXpedition for this event, and it was a pleasure to work him in 2008 on three different bands on CW. Easter Island is in the Pacific Ocean east of Chile and is owned by that country.

ZD7K, ST. HELENA ISLAND – The name of this island is pronounced “Hel – lay – nuh”, not “Hel – uh – nuh”. St. Helena was fortified in the early 19th century as this was where Napoleon was exiled to. St. Helena and Ascension Island were guarded to prevent attempts to free him. His tomb is here (although empty since 1840 when his body was moved to Paris) and may be visited. Both the house and tomb are maintained by France. St. Helena is a volcanic island located in the South Atlantic. The picture on the QSL at right, shows “Jacob’s Ladder” which was built in 1829. It has 699 steps rising to a vertical height of 602 feet. This was a major DXpedition that I worked in 2001.



MEMBERSHIP RENEWAL

A reminder for everyone wanting to keep their BVRC memberships current for the coming year, club dues can be paid in person at the monthly meetings, cash or personal check via snail mail to the club treasurer Marc-WØKYZ, or via PayPal by using Marc's e-mail address: almarc11@yahoo.com.

Also remember that BVRC memberships are "family memberships," to include all other licensed family members living under the same roof, at no additional charge.

Dues should be paid by March 31. If you pay in person at the meeting, please see BVRC Treasurer Marc - WØKYZ to make sure he has you noted on his membership roster when you pay.

Additional information is included on the club membership web pages. For further information, check this web address:

<https://www.bellavistaradioclub.org/application.pdf>



BVRC CLUB ACCESSORIES!

*Show you're a proud BVRC
member with:*

- Key Tags
- Badges
- Mouse pads
- Trailer
- Desk Name Plates
- Ceramic Mugs
- White & US Flag
License Plates
- Hitch Cover
(not shown)

To order your personalized club product,
click [here](#) !

BVRC DOORPRIZES!

From Ron – K5XK: I don't know anyone who doesn't like to get something for free! Even better, when they are 'high value' door prizes. Each month, we ask our generous members to consider donating good used radio & electronic items for the next meeting's door prizes. These are not to be taken for granted. For two years, Gregg Doty (N5RGD) & XYL Lynda, have been donating multiple assortments of their mouthwatering Lynda's Nuts. At last month's meeting, Allan & Carol Fowler (KF5ROH & KG5BJW) donated a \$25 Amazon gift certificate! Yours truly won a terrific Weller [soldering / de-soldering kit](#) donated by Bill Durham, KG5ZCI. We've had just about everything imaginable, from electronics books, all types of small accessories, to scanners, radios, HF/VHF/UHF antennas, antenna analyzers – and so much more. Please consider paying forward your unused radio-related items at an upcoming club meeting! Door Prizes are another great benefit of being a BVRC member!



Hugh - WAØTDQ

BVRC member from Neosho, MO – Hugh Maddox, WAØTDQ – sent us this yesteryear photo from WWII. Hugh tells us, "That's me 75 years ago, probably around Feb. 1944. I was 20 years old and stationed on Ledo road in Burma at the company headquarters of the 209th Combat Engineers."

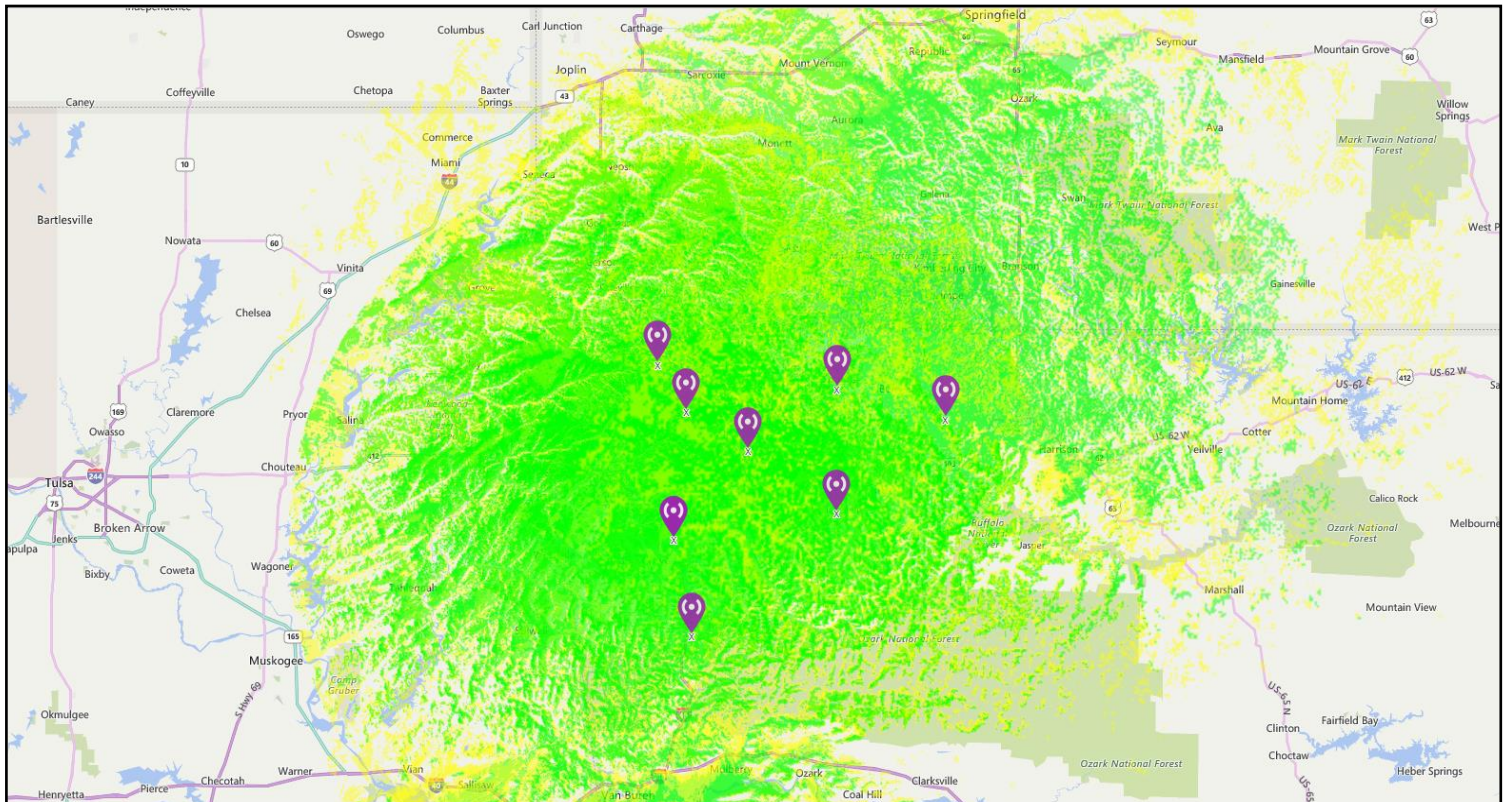
Hugh was a young Morse code operator for the Army. He has been licensed 53 years, and recently celebrated his 96th birthday.



Way to go, Hugh, and thanks for sharing!!!

The Northwest Arkansas Link System, used by the Wide Area Net each Wednesday evening at 9pm, is a phenomenal combination of linked VHF and UHF repeaters throughout Benton, Carroll, Madison, and Washington counties.

You can access the system by using any of the **EIGHT** repeaters that are distributed throughout the NW Arkansas area. The coverage footprint of the system has a staggering reach from Springfield, MO to Fort Smith, AR (north to south) and from Mountain Home, AR to Chouteau, OK (east to west). See coverage map below.



Last month we highlighted an antenna article on the Windom, an off-center fed dipole antenna. This month we would like to feature another antenna article on:

The Basics of High Frequency Vertical



and Beam Antennas

By H. Ward Silver – NØAX

At high frequencies, ham radio antennas can be fairly large. An effective antenna is usually at least $\frac{1}{4}$ wavelength in some dimension. On 40 meters, for example, a $\frac{1}{4}$ -wavelength vertical antenna is a metal tube or wire 33 feet high. At the higher HF frequencies, antenna sizes drop to 8–16 feet but are still larger than even a big TV antenna.

Your physical circumstances have a great effect on what antenna you can put up. Rest assured that a large variety of designs can get you on the air.

Verticals and beams are two of the three basic HF antennas used by hams all over the world. You can build these antennas with common tools or purchase them from the many ham radio equipment vendors.

VERTICAL ANTENNAS

Vertical antennas are nearly as popular as wire antennas. The $\frac{1}{4}$ -wavelength and $\frac{1}{2}$ -wavelength antennas are two common designs. Verticals don't require tall supports, keep a low visual profile, and are easy to move or carry. Verticals radiate fairly equally in all horizontal directions, so they're considered to be *omnidirectional* antennas.

The $\frac{1}{4}$ -wavelength design is a lot like a $\frac{1}{2}$ -wavelength dipole cut in half and turned on end. The missing part of the dipole is supplied by an electrical mirror of sorts, called a *ground screen* or *ground plane*.

A ground screen is made up of a dozen or more wires stretched out radially from the base of the antenna and laid on top of the ground. The feed line connects to the vertical tube (it can also be a wire) and to the radials, which are all connected. The $\frac{1}{4}$ -wavelength verticals are fairly easy to construct and, like dipoles, work on odd multiples of their lowest design frequency.

Ground-independent verticals are about twice as long as their $\frac{1}{4}$ -wavelength counterparts but don't require a ground screen. The lack of a ground screen means that you can mount them on masts or structures above the ground. The feed line is connected to the end of the vertical but requires a special impedance matching circuit to work with low-impedance coaxial feed lines.

Several commercial manufacturers offer ground-independent verticals, and many hams with limited space or opportunities for traditional antennas make good use of them. Both types of verticals can work on several bands through the use of the similar techniques used in wire antennas. Commercial multiple-band verticals work on up to nine of the HF bands.



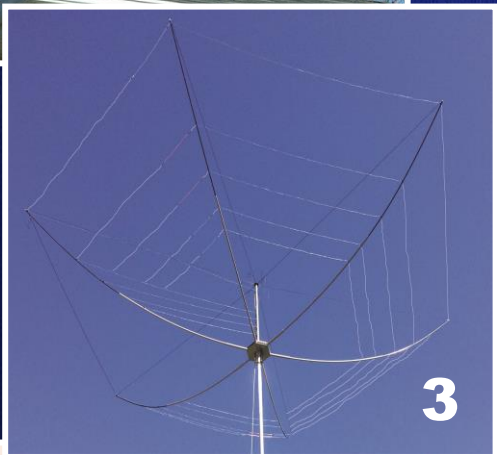
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BEAM ANTENNAS

The most common HF Yagi today is a three-element design (a reflector, a driven element, and a director) that works on three popular ham bands (20, 15, and 10 meters) and so is called a *tri-bander*. Photo 1 is a three-element Yagi beam on a 55-foot mast whose lowest operating frequency is 14 MHz.

Other HF beams are made from square or triangular loops. They work on the same principle as the Yagi, but with loops of wire instead of straight elements made from rod or tubing. Square-loop beams are called *quads* (photo 2), and the triangles are called *delta loops*. *Hex beams* (photo 3) are configured in circles. Log periodic beams (photo 4) are also used on the HF bands, with popular models available that cover 20 through 10 meters.

Whereas wire antennas have a fixed orientation and verticals radiate equally in all horizontal directions, a beam antenna can be rotated, which allows you to concentrate your signal or reject an interfering signal in a certain direction.

You can place small HF beams on inexpensive masts or rooftop tripods, although they overload most structures designed for TV antennas. You also need a *rotator* that mounts on the fixed support and turns the beam. You can control the rotator from inside the shack with a meter to indicate direction.

Most hams start on HF with a wire or vertical antenna. After you operate for a while, the signals you hear on the air give you a good idea of what antennas are effective. After you have some on-the-air experience, you can decide whether you need a beam antenna.

BVRC, along with many radio clubs in our area, has many opportunities for the Volunteer... Field Day setup and operation, repeater operation, HF operation, contesting, awards pursuit, elmering, emergency communications, public service radio operation, and many other rewarding areas. Ready or not, you are part of a volunteer organization...please consider what that means.

Why Volunteer?

There are many motivations for why folks jump-in to help, even before being begged! You'll have to find your own motivation because using someone else's just won't last as long. Here are some advantages and enjoyments about being a volunteer:

1) You will gain something

By definition, volunteer work is unpaid, so the rewards you reap will be more emotional and maybe even spiritual. The advantages of volunteering include the opportunity to give back to your organization and feel useful, and to fill-in a gap in your personal life as well as intellectual stimulation and growth.

2) Personal growth

Volunteer work will reveal interests and skills that had never been realized by the volunteers. You might be pleasantly surprised by discovering that you are good at doing unexpected things. You will grow your confidence with each new challenge tackled and skill learned.

3) You might feel better!

Research studies have shown that volunteering, particularly by older adults, provides real health benefits. Physical activity and a positive outlook can also help reduce blood pressure and keep you from kicking the dog (or cat).

4) Credit for your service

For students and others who need community service hours, volunteer work is a particularly important and necessary commitment of time. Some high schools and colleges even offer class credit for community service hours.

Volunteers are the children of volunteers. Many of us grew up with volunteering . . . that was what was expected of you as a human being. Recruiting new volunteers doesn't just fill a present need, it's an investment in the future of our club and the community.



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