THE SIGNAL

Newsletter of the Bella Vista Radio Club

Vol. 1, No. 11 – February 2019

Weekly Nets: 3820 kHz Roundtable, Sundays @ 4 p.m. • 147.255 Repeater Net, Wednesdays @ 8 p.m.
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

IN THIS ISSUE:

(Including several [hopefully] helpful antenna articles)

Welcome to 2019! On top of my wife's birthday, our anniversary, the youngest son's birthday, and then Valentine's day, I am swamped this time of year, coming off the holiday season as well. January is a busy month family-wise. Then it's smooth sailing for the rest of the year. I hope you and your family are having a great January.

The Bella Vista Radio Club has great momentum with the program presentations we have setup. What a great January program with W5SJ, Bill Priakos. February will bring Rick Pope, a dynamic speaker with his Radio Station Grounding presentation. We also are planning utilizing N5KWL Tem Moore's "NWA Link System" to test wide area coverage (from Branson to Ft. Smith) on a net in the near future. Tem also gave us a great presentation about this at our October meeting. This should provide fantastic coverage and also backup for our Jane repeater. I had the pleasure to speak with Tem about his linked repeaters, and he is excited to have the Bella Vista Radio Club use them. Tem may even put the 442.950 repeater location as Bella Vista, instead of Bentonville, as it is closer to us here in Bella Vista. Look at our May and November newsletters for more info!

The HAM-101 committee led by Gregg Doty – KF5ZIM is taking shape, and we will be having Tech licensing classes this year. Hopefully we can then move on to the General and Extra classes as well! I encourage you all to look at the web page Gregg has setup and provide comments.

Keep an ear out for our club call N5BVA in 2019 as we will be celebrating our 25th Anniversary using the club call. Look for us in the Arkansas QSO party, as well as other great events throughout the year.

AND, KEEP ON HAMMING! Get on the air, work some folks, DX, or your neighbors locally in the club. Enjoy this "Hobby of a lifetime".

B V R C Officers:

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Glenn Kilpatrick – WB5L

VICE – PRESIDENT
Chris Deibler – KG5SZQ

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Wayne Patton – K5UNX

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Steve Werner – K5SAW

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Fred Lemley – K5QBX

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MEMBERSHIP COORDINATOR
Ron Evans – K5XK

EMERGENCY COMMUNICATIONS
Chuck Healy – WØCEH
Lorrie Healy – N1RNI

HAM 101
Gregg Doty – KF5ZIM

V E TESTING
Glenn Kilpatrick – WB5L

NEWSLETTER EDITOR
Don Banta – K5DB

NEXT BVRC MONTHLY MEETING

THURSDAY - FEBRUARY 7, 2019
HIGHLAND CHRISTIAN CHURCH
1500 FOREST HILLS BLVD.
BELLA VISTA, AR

FEBRUARY PROGRAM:

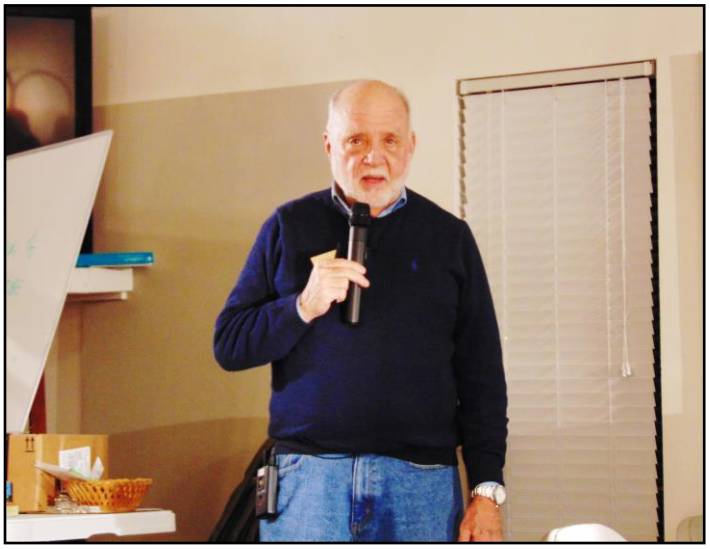
"What's All This Buzz About Grounding?"

This month, BVRC welcomes Rick Pope – KG5MWG as our guest speaker. Rick is a certified electrician, getting his start in the US Navy. Rick has also worked at Martin Marietta Aerospace, and is currently owner of the electrical contracting firm Rocky Mountain Associates. He has attended Long Island University, Univ. of Colorado at Golden and Denver, and the Univ. of Arkansas. Don't miss Rick's presentation, which will be informative and enlightening.

STELLAR PROGRAM HIGHLIGHTS BVRC JANUARY MEETING

43 persons sustained the cold, rainy evening of January 3rd and trekked to the hallowed meeting room of Bella Vista Radio Club. They were rewarded with an outstanding program presented by Bill Priakos – W5SJ: "The Thrill of DX – Being The 'Hunted' ".
Bill resides in Fort Smith and is married to his lovely XYL, Kathy. Bill started as WN5KGJ in 1955. At age 13, he worked WH6BLI in Hawaii and, "Bang! – That was it! The DX bug had bitten me and I was hooked!"

Bill is a past President of the ADXA (Arkansas DX Association) and the Lone Star DX Association when he lived in Dallas. He has been to four continents, and holds callsigns from about 20 different countries, as well as having participated with several major DXpedition teams.



Bill is the "ham's ham". He has worked ***ALL*** DX entities, both present and past. Bill showed a video from 2012 when he worked 7O6T (Yemen) which was the last entity he needed to achieve #1 DXCC Honor Roll. He showed the Club a plethora of QSLs from the many DXpeditions he has been involved with, concluding his program with a great slide show of his recent team DXpedition to the Austral Islands, callsign TX5T. Bill said the team worked about 16,000 QSOs in 7 days! His awe-inspiring program really drove home the realization of the fact that the components of logistics, travel arrangements, equipment, and personnel take colossal efforts toward the success of a DXpedition.

Bill, thanks for the astounding program, and we hope you'll come back again and share more great stories of your DX adventures in ham radio, and perhaps share about a new DXpedition that you've been incorporated in!

BVRC PRESIDENT GLEN-WB5L PRESENTS THE BVRC PROGRAM CERTIFICATE OF APPRECIATION TO BILL-W5SJ.

BVRC VE REPORT

January 12, 2019

Test sessions are conducted each 2nd Saturday of the month, 2 pm, at the Highland Christian Church in Bella Vista

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

Congratulations!

Steve Snyder – KI5BMS – New General !
Kenneth Swift, Jr. – KI5CTA – New General !
Nicklas Perry – New Technician !

MEMBERSHIP RENEWAL

Just 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 or via PayPal by using as the address: almarc11@yahoo.com

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!

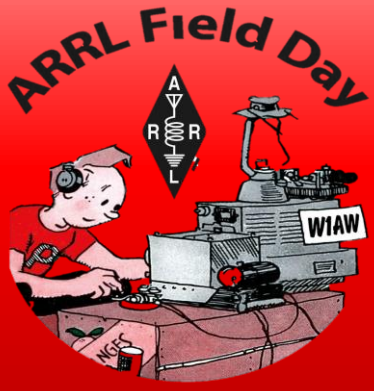
Show you're a proud BVRC member with:

- *Key Tags*
- *Badges*
- *Mouse pads*
- *Desk Name Plates*
- *White & US Flag License Plates*
- *Ceramic Mugs*

To order your personalized club product, click here !

FIELD DAY 2019

COMING SOON



Thanksgiving, Christmas, and New Year's have once again passed, and we have collected lasting memories of family and friends which will be with us forever.

The Winter Solstice has also come and gone. What does that mean to the dedicated ham? It means the days are once again getting longer and nights shorter. And yes, we'll probably still have to endure several rough 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 2019. In only about 5 months, "CQ FIELD DAY" will once again fill airwaves, June 22-23.

MARK YOUR CALENDAR NOW FOR AN EXCITING FIELD DAY 2019 ADVENTURE WITH BELLA VISTA 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 (not exciting, but necessary)? Radios, antennas, power sources, accessories, etc. are all a part of the plan. Do you plan to operate SSB, CW, Digital?

Remember this is largest amateur radio event in the United States and it only happens once a year, so plan on coming and staying for a good length of time. With the station activity, visiting with other hams, and just enjoying the "World of Field Day", the time will fly, and you'll have a ball!

Later this year, *THE SIGNAL* will feature a special article on the "myths and legends" of Field Day, which should be entertaining but, above all, informative for both Field Day newcomers and veterans alike.

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

Prepare now!!!

Field Day cometh!!!

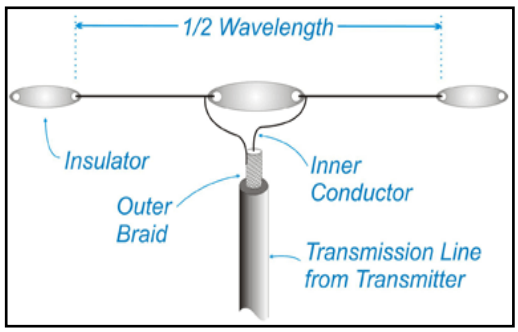
NEW! HAM 101

YOUR FIRST DIPOLE ANTENNA

Greetings new ham licensees and welcome to BVRC and a new department geared especially for you! HAM 101 will be a regular feature in THE SIGNAL *each month to help you get started on the right foot with your new and great hobby of amateur radio. Of course, there is nothing like hands-on demonstrations and being helped by a real, live person (called "elmers" in the ham radio world). BVRC has just formed a new HAM 101 committee, of which preparations are already being made to furnish our new hams with individuals who can supply them with that hands-on guidance, and help them get started on the right foot! However, we hope that these little monthly topics might give you some insight to help answer some of your many questions, as well as provide you with some good reference material. ENJOY!*

One of the challenges of getting on the High Frequency (HF) bands is putting up an effective antenna. Assuming you've got the cash available, buying an HF radio might be the easy part of assembling a station. Putting up the antenna may look like a daunting task the first time around. This is where the classic half-wave dipole antenna comes into play, since it is relatively easy to construct and make work.

The basic construction of the dipole is two elements each 1/4 wavelength long, fed in the center by a transmission line (as shown in the figure below).



The total length of the dipole is given by:

Length (feet) = 468/ Frequency (MHz)

For example, for the 10 Meter band, we might cut the dipole for the frequency of 28.4 MHz (right in the middle of the Technician phone band). Using the formula, we can calculate the total length of the dipole (a half wavelength).

Length (feet) = 468/28.4 = 16.48 feet

You can use just about any old wire that is 16 gauge or larger but it needs to be a good conductor, with copper being the most popular choice. Stranded wire is generally better since solid wire can stretch under tension. As shown in the figure, you'll need some kind of insulator at the center and at both ends of the antenna. You can buy insulators designed for this purpose or you can just fabricate something on your own.

As shown in the figure to the left, the coaxial transmission line may be attached right to the antenna wires without a connector. The coaxial center conductor attaches to one of the ¼-wavelength elements and the ground side shield or braid attaches to the other segment. You may also purchase special center insulators that have a coaxial

connector integrated into them, so the transmission line can be easily attached. And of course, there are many commercially available dipole antenna products ready for a simple coaxial cable connection and minor trimming or "tuning" to proper length.

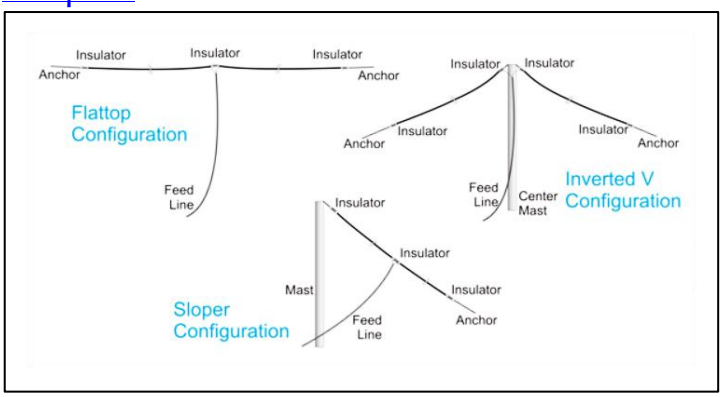
You will probably hang the antenna by attaching rope or cord to the end insulators. This may be your biggest design challenge…to figure out where to string the antenna. A pair of tall trees can work well, if they are spaced at a convenient distance. Or you may have to connect one end to your house and the other end to a pole. The main thing to keep in mind is that the antenna ***should not*** be in close proximity of large metal objects. For example, if you mount the antenna close to a metal rain gutter, it will severely detune the antenna and it will not work well. You'll want to get the antenna up into the air about ¼ to ½ of a wavelength above ground, but you may have to settle for less than that.

Dipoles are commonly erected in one of three configurations: 1) Flattop, 2) Inverted-V, or 3) Sloper. (See figure, lower right) The Inverted-V configuration has the advantage of requiring less horizontal space and only a single high support in the center, although the ends should be kept high enough to be out of normal human reach. This configuration also provides a bit better signal propagation off the ends of the antenna than a flattop arrangement. The flattop configuration tends to provide slightly better gain, or signal strength in the broadside directions (right angles to the wires), but performance out the ends of the wires is poorest. The sloper also uses a single tall support and has a more omnidirectional azimuthal (horizontal) radiation pattern, much like the Inverted-V. In each case, route the transmission line away from the elements at a right angle or directly between the elements for the inverted V, as depicted in the figure below, to avoid detuning the antenna. Every antenna is a compromise, so decide which dipole configuration will work best for your situation.

To get the antenna trimmed to the proper length, *start out by cutting the antenna a little long*…you can always trim it shorter. Use an SWR meter or antenna analyzer to adjust the antenna for best (lowest) SWR at the desired operating frequency. Remember, make the antenna longer to lower its operating frequency and make it shorter to raise the operating frequency. Next month, we'll discuss how to trim your dipole, for a detailed description of "tweaking" it for good performance.

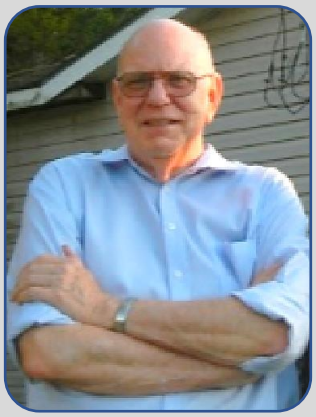
Since this is your first dipole, be encouraged to just try and get something working. It does not have to be a work of art – it just needs to radiate your signal. You may end up installing a more complicated antenna later but the main idea here is to *get on the air*.

This is just a short article to get you started down the path of Your First Dipole Antenna. For a more detailed look at this type of antenna, see the QST article, "Antenna Here Is A Dipole".



See you next month!!!

BVRC Member Spotlight



MARK WHATLEY K5XH

One of the newer members to BVRC – but certainly not new to amateur radio and a seasoned veteran in his own rite – has the spotlight for this month's issue of *THE SIGNAL,* Mark Whatley – K5XH. Mark was first licensed in 1963 as WN5IED then later upgraded to WA5IED. Mark, of course, later upgraded again to Advanced, then Amateur Extra class, and now holds the callsign K5XH.

Mark resides in Fayetteville but works in Springdale at a small electronics contract manufacturer, he primarily works with customers that require some degree of custom design of their product. His expertise is actually in embedding processor coding and circuit board design.

In response to how he discovered amateur radio, Mark said, "I'm not really sure when my interest in amateur radio began. When I was in the 8th grade down in Texas I built a crystal radio for a science project. I moved to Fayetteville in about 1962 and in the summer of '63, I got my Novice license. Less than a year later I got my Conditional license. When the FCC did away with the Conditional, I got grandfathered into a General class. I joined the Army in 1968 and found myself in Korea for a year. I protected the world from Communism by keeping a Gates AM broadcast transmitter on the air. After Korea, the Army made a serious error in placing me at my next duty station. I spent my final year in the service at a MARS station installation located in Fort Sheridan, IL. The Army actually placed me in a spot I didn't mind being in! While at Ft. Sheridan, I made the trip to the FCC office in Chicago and passed the Advanced exam. I got out of the service in 1971 and a few years later in 1975, I passed the Extra class exam at the Kansas City hamfest."

Mark said the closest person he had to an Elmer was "……my future (at that time) father-in-law Dan – WA5ATK (SK). He wasn't so much an elmer but he let me use his station. He had a modest station, but I thought it was awesome. He had a SX111 receiver and a Central Electronics 200V transmitter. No amplifier, but he did have a four-element beam."

As far as his favorite choice in radio, Mark says, "I have always had an affinity for RTTY. At one time I had the whole mechanical setup – model 15 KSR and a model 14 reperf and TD. It seems RTTY is a dying mode as I rarely hear anyone on except for contests. I do enjoy operating a few contests especially the RTTY Roundup in January."

"At one point back in the late '70s and early '80s I got interested in weak signal 2M work. I had a KW on 2-meters with four Cushcraft Boomers on an AZ-EL mount. Working EME was a very satisfying experience."

"In the early 80s I also got interested in flying. That lead me to abandon Amateur Radio for a few years, and for about 15 years I worked as a corporate pilot."

As his station goes, Mark says he has never collected much in the way of radios. Someone gave him a Knight T50 transmitter for his first Novice transmitter. He passed it along to someone else when he upgraded. He has never owned more than a couple of HF rigs at the same time. His current station consists of a Flex Radio 6600, a SB200 amp, and a Henry 2K amp (Ed. note: GREAT AMPS, MARK!). He uses a tri-bander for 20-15, a five element 6M beam, a two-element beam for 40, and a dipole for 80. He says he also has his old Flex 5000 for a standby rig.

Although Mark says he has played with RC planes and astronomy over the years, he always ditches them and returns to radio.

Mark's XYL, Ada, got her Tech Plus license as KC5YBC. She passed away in 2010.

You don't have to talk to Mark very long to know that he's a veteran ham, which is attributable to his vast knowledge of antennas, RTTY, FT8, and many other areas of our hobby.

Mark it is a pleasure and honor to have valuable members like you in BVRC!

FROM MEMBERSHIP COORDINATOR RON – K5XK

K5SAW – Steve is exploring the DMR mode with able tutoring from John/N5SU & Randy/N5LML.

K5FWM – Frank is still recovering from a computer crash, reloading his suite of amateur radio software.

N5KWL – New member Tem not only operates the seven repeater "NWA Link System," he is expanding his interest to 75 Meters. With his new ICOM IC-7300 and inverted-V, Tem expects to be a new regular on the club's '3820 Roundtable' soon.

K5UNX – Wayne has a new Bencher iambic paddle and has resumed practicing CW. He is a previous graduate of the "CW Academy" conducted by the CW Ops club.

KEØQFO – Alan has acquired a new crank-up tower and is looking forward to loading it up with an array of HF and VHF/UHF antennas.

WBØAUQ – Bob is 'wintering' in the Mission TX area, and has his gear and antennas, looking for club members and other area QSOs (on CW).

KØSNG – Speaking of Texas, Bob Femrite, former BVRC member/president, surprised many of us by checking into the 3820 Roundtable on Jan 20th from his current Nolanville TX QTH.

K5XK – Are there any philatelists in the club? Ron has some DX stamps to contribute.

Saturday morning breakfast – Everyone is invited to gather for breakfast and QSO Coffee/Breakfast and 'Eyeball QSOs' at Rosita's Café, in the Macadoodles Center at the intersection of Hwys 71 & 'OO,' each Saturday morning at 08:00. Discussion topics are always engaging, and many problems are solved! Contact Bob Rainwater, WBØAUQ, brainbolt549@gmail.com, for more info.

KG5SZQ – Chris is the coordinator of the Net Control Operators for the Club's weekly Two Meter Repeater Net on Wednesday night, at 8 p.m. Any members interested in joining the rotation of NCS (Net Control Stations) should email Chris at chris52@cox.net .

We Need Your News! What's your latest radio-related endeavor? Studying for a license upgrade? Planning or using a new radio, antenna, or accessory? New operating mode, etc? Send your Member News to: Ron, K5XK@arrl.net

GREGG DOTY-KF5ZIM NEW *HAM 101* CHAIR!

Congratulations and a big word of thanks go out to Gregg, who has stepped forward to head-up BVRC's newest committee. The HAM-1O1 group will be concentrating on helping members who are new to amateur radio by providing them with quality foundational material and information. Gregg advises:

"After several weeks of combined efforts the Ham 101 committee is hard at work. The Committee is made up of Gregg Doty-KF5ZIM, Tom Carroll-KE6UWB, Jeffers Dodge-KK6LNC, Marc Whittlesey-WØKYZ and Ed McCarroll-KCØDX. We are in the process of evaluating the needs of our Club and the members, plus the search for Elmer's is ongoing. If you have not already, we would appreciate it if you would take just a few minutes and go to www.ham101.org and send us your comments. What would you like help with, would you like to be an Elmer, provide support, or just offer comments."

We look forward to hearing from you!

3820 MODERATOR

JOHN BRYANT N5SU

If you've ever checked-in to the 3.820 kHz Roundtable Group on Sunday afternoons at 4pm, you may have done so during one of the sessions that N5SU was directing. John is one of our great Moderators for the group, who rotate on a weekly basis in the span of a month. Not only is John an excellent Moderator and operator, he is also a new member of BVRC! John resides in Elkins, so we definitely give a tip of the hat to him as he is one of our members who have to drive quite a distance to attend club meetings (50 miles). John, keep up the great work with the 3820 group, and it's great to have you as a part of BVRC!

Strays.....

On Saturday, Jan. 5, I journeyed over to Green Forest, AR for a red-letter date in my oldest grandson's life – getting him on the air for the first time on HF. His name is Damien Stimson, current callsign KG5MQJ (he's working on getting a vanity Extra call). Damien is 16 (just had a birthday) and recently passed his Extra class exam at the October BVRC VE session. But, neither he with his studies, nor I with November Sweepstakes and holiday stuff, had the opportunity to get him on the air until now…….

He was a trooper in helping me get him setup, already had a small trench dug to bury his coax line in when I arrived. We raised his 40' mast practically without a hitch, got the feedline covered-up and routed into his house, helped him familiarize himself with his transceiver, and we worked PY2XT right off the bat without a hitch. Damien is running a Kenwood TS-430S to a Carolina Windom 80 inverted-V. But we ran out of daylight. I went back over the next weekend, when we got his RF ground put-in, and completed his installation.

Don – K5DB

CHOOSING AN HF VERTICAL

By – Don, K5DB

In the different situations that we encounter in our walk of life, we usually have to deal with the positive and negative elements of that situation. Vertical antennas are no exception. Several times, I have heard hams proclaim, "I wouldn't give you a plugged nickel for a vertical. I'm a 'wire man'. Dipole antennas are where it's at.....not a stickin' vertical."

But, I beg to differ with those individuals. While dipole antennas are generally the mainstay of most hams all over the world (and a very good antenna they are), the vertical antenna is also an excellent antenna and a force to be reckoned with. The big DX-pedition teams that you hear and read about that travel to rare and difficult locations on the globe…….Guess what, along with beams, they use as another antenna of choice, especially on the *low* bands? – THE VERTICAL.

The big advantage verticals have is in the application of limited space as opposed to a dipole antenna, at least where you're wishing to operate the lower bands of 40, 80, or 160-meters. With a dipole, you either cannot install it simply because of its length being too great for the size of your property, or you have to revert to a trap dipole which could give you disappointing results. (Now, there's a big difference in trap dipoles and trap verticals! But we're here to discuss verticals, so let's move on....) If you want to have the ability to operate on the HF bands with limited antenna space, you're not going to beat a vertical. That is its single-most big advantage.


Cushcraft R9 Vertical

The main disadvantage of a vertical - if you choose to term it as such - is that you will not normally be able to contact close-in stations very well, "close-in" meaning 50-100 miles or so, especially on 75/80 meters. The closer-in stations may hear you, but not very well, as will also be the case in you not hearing them at a comfortable level. This is due to two contributing factors: #1, many of the other stations will probably be using dipole antennas which are more or less horizontally polarized, whereas you with your vertical are obviously vertically polarized. #2, the RF take-off angle will be fairly steep, thus rendering it semi-ineffective for close-up communications. However, when the distance is increased to 150 miles or more, you have a whole other ballgame – the polarity problem relatively decreases with distance, and the radiation angle begins to become your friend and not your enemy.

A secondary disadvantage of a vertical, again if you consider it as such (which I do not), is that with most verticals, you have to install radials. These are simply certain lengths of wire that can vary in number from three up to many wires that are attached to the bottom of the vertical. Unless you have a vertical that does not require them, radials are a must – ya gotta have 'em. They can either be laid on top of the ground (which is the more popular installation method), or bury them several inches below ground level to avoid the lawn mower, aesthetics, etc. You'll get better results if you install the radials *on top* of the ground with

weed barrier anchoring pins and then allow your lawn to grow-up over them, taking care as to your mower cutting height. You can configure radials in many ways, also.

But the results! I've worked many, many countries with a vertical and in pileups, too. Much of my inspiration with verticals stems from my cousin, John-W5OX in Harrison, who began his radio experience with a Hustler 4-BTV trap vertical (which was the first vertical I had ever seen) and he worked stateside and DX with ease.


Hustler
4-BTV Vertical

But now we come to the kicker: We've been talking about the transmitting aspects, but now we bring you to the *REAL* beauty of the vertical – **RECEIVING!**

When it comes to receiving weak signals, verticals are awesome, and I'm not kidding – they are extraordinary. A few years ago, when I had my GAP Challenger vertical, I was an NCS (Net Control Station) for the GERATOL (Greetings Extra Radio Amateurs Tired of Operating Lately) Net, which is a Worked-All-States net that operates in the Extra class phone sub-band of 75-meters. I semi-retired from the net, but still check-in frequently and it's still a great net (you do have to be an Extra class license holder to participate in it, however). At that time, I used both my GAP vertical and my Carolina Windom dipole for low bands, and especially for The Geratol Net.

If you're going to be a good NCS, I don't care how much output power one runs, you ***must*** be able to hear the other net stations. Otherwise, you cannot direct the net efficiently. Many times, during my Friday nights as NCS on that net, around midnight and into the early morning hours, Alaska, Hawaii, and Northern Territory stations would check-in to the Net. You had to stay up that late to work them not only because of the 4-hour time zone differential, but also because of increased nighttime propagation on 75-meters (obviously). Yes, many of those net members (like myself) run amplifiers, but we had a lot of good operators running low power and QRP stations on the net as well.

I cannot tell you how many times I heard weak stations at S-2 or S-3 on the dipole, but after switching over to the vertical my reception of them increased to S-7 and greater-usually a 4 S-unit or more jump! Plus!...the vertical drastically cut-out the wintertime "white noise" on the band that the dipole did not. You can take it to the bank when I tell you that the vertical is a remarkable receiving antenna, if you don't have room for a Beverage.

So, in closing, let's quickly run through the different types of verticals:

TRAP VERTICALS

These verticals use "traps" that are parallel resonant circuits to electrically isolate portions of the antenna when transmitting on various bands. The traps make the antenna act as if it were a resonant quarter-wave vertical. For example, when an antenna such as the afore mentioned 4-BTV is being used on the 10m band, only the lower portion of the antenna is active. When operating 40m, the entire length of the antenna is active. This is an antenna that DOES need radials to operate effectively, and the more the merrier. Again, consider the "radial factor" if you're thinking about purchasing a trap vertical. *(By the way, and I am not a sales rep for any of the manufacturers or dealers, but you can buy a brand new Hustler 4-BTV 40-10m right now from DX Engineering for around $185.00. The 5-BTV which has a trap for 80m is higher in price, of course.)*

NO-RADIAL VERTICALS

In recent years, several manufacturers have introduced vertical antennas that do not need radials. GAP and MFJ are two manufacturers that offer these types of antennas.


Butternut
HF6V Vertical

The manufacturers claim that these antennas are more efficient than trap verticals, and many amateurs use them with good results. There are some drawbacks, however. They can, at times, be difficult to tune, and they do require mounting at some distance above ground. The reason for this is that they are, in effect, vertical dipoles and if the end of the antenna is too close to the

ground, the antenna will detune due to capacitive coupling. However, and overall, these are good vertical antennas that have performed well.

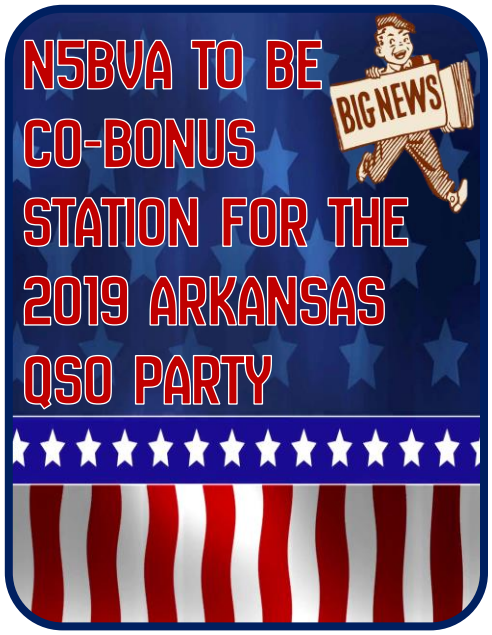
NON-RESONANT VERTICALS

A third class of vertical antenna that has become popular is the non-resonant vertical antenna. An example of this type of antenna is the LDG S9v43. It is a heavy-duty, telescoping, self-supporting fiberglass vertical designed for amateur radio use from 80 through 6 meters. The S9v43 weighs under 9 pounds, making it the lightest tall vertical on the market. It is just over 42' tall and has the same 50 Ohm resonant frequency of 5.44 mHz as some traditional 43' telescoping aluminum verticals. Other manufacturers also make this type of vertical antenna.

One reason that this type of vertical antenna has become popular is that it can be used across a wide frequency range. The resonant frequency of this antenna is actually about 5.4 mHz. With an antenna tuner however, you can use the antenna on all bands from 80m–6m. The tuner can be located in your shack, but for the lowest loss, you will want to locate it near the base of your antenna. Don't try using it with the internal tuner in your rig. On some frequencies, the antenna impedance will be quite high, and most internal rig auto tuners do not have adequate range to provide a 50-ohm match. These antennas also require radials. There is no formula to calculating the length of the radials, but they should be at least 0.2 wavelength at the lowest frequency that you wish to operate.

One huge word of advice with ANY vertical – do your best to ensure it's at least 30 or more feet from any metal building or tower structure, or serious detuning will result.

Without a doubt verticals, like dipoles, definitely have their place in the ham radio world. If you are cramped for space, if you want a terrific backup/secondary antenna to add to your primary one, or if you desire a great receiving antenna, perhaps you should seriously consider ***the vertical !***



As was mentioned in last month's issue, the annual Arkansas QSO Party welcomes for the first time, BVRC and club station N5BVA as one of the Co-Bonus Stations for the yearly event. This year's ARQP takes place on May 11.

This will be an ideal opportunity for all our member newcomers and veteran ops alike, to have some real ham radio fun, while honing your operating skills. This is just another reminder for you to be sure and mark your calendar! Stay tuned for more information on how to participate, as ARQP Day draws near, here in THE SIGNAL, the BVRC website, and meetings and nets.

C U for the ARQP!!!

The Lighter Side

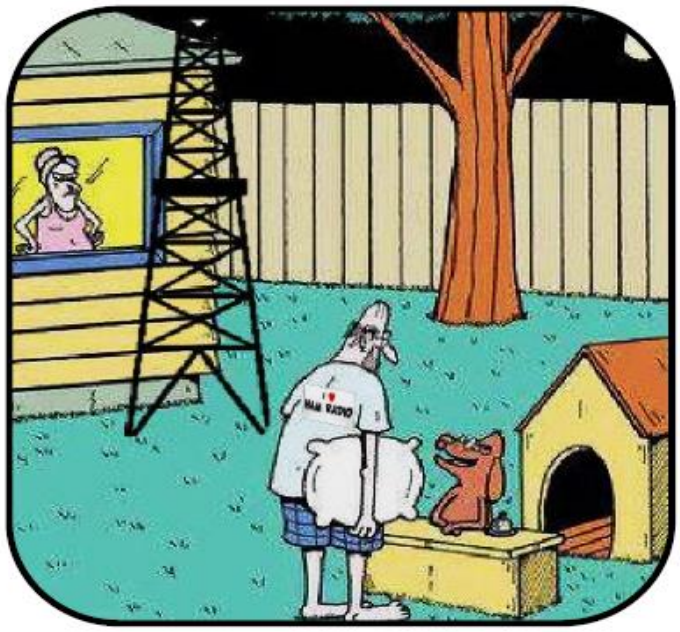
One day, it occured to an avid ham operator who was very precise and methodical-minded in his way of doing things, that he had been using the radio too much as of late. He remembered his dear wife and how she had been working hard and doing the daily duties around the house, while he had been setting on his backside enjoying the bands.

Guilt suddenly rushed over him, and he felt really bad about this. Upon his realization, he went straight to his busy wife who was in the kitchen:

Ham: "Hey dear, I just realized I really need to pitch-in around here with you. Is there anything I can do to help you?"

Wife: "Well thank you very much honey, and yes... I sure could use some help. Take this bag of potatoes, peel half of them, and put them in the big pot to cook."

He did →



Welcome back, sir. Are you planning on being our guest for one night only, or will this be your usual extended stay?

MY [HAM] FAVORITE THINGS

(To the tune of "My Favorite Things"…. what else?)

Multiband yagis and beverage wires,
Bright copper ground rods and warm amplifiers.
Paddles with magnets instead of with springs.
These are a few of my favorite things….

Rigs that have dials
and rigs that have mouses,
No deed restrictions - antennas on houses,
Working on FT - 8,
Gosh – what a zing!
These are a few of my favorite things…..

When the band's dead!
When the amp blows!
When I'm feeling sad
I simply remember my favorite things.
And then I don't feel so bad.

DX-peditions reply to my call sign,
Good propagation and sun spots and grey line,
Old Collins radio emblems with wings,
These are a few of my favorite things….

Hamfests and contests and
on-the-air meetings,
Relishing Field Day,
No snow and no sleeting,
Multi-hop long-path
the F-layer brings,
These are a few of my favorite things….

When my feedline,
Gets a dead-short,
When I'm feeling sad,
I simply remember my favorite things,
And then I don't feel so bad……

HAM RADIO HELPS COGNITIVE SKILLS

AMATEUR RADIO IS HELPING LIFELONG HOBBYISTS STAY MENTALLY FIT IN OLD AGE. IT COMES WITH ALL THE BENEFITS OF SOCIAL MEDIA BUT WITHOUT "ANY OF THE DOWNSIDES" AND ONE OF AUSTRALIA'S OLDEST HAM RADIO ENTHUSIASTS SAYS IT IS ALSO THE PERFECT HOBBY FOR RETIREES LOOKING TO STAY MENTALLY SHARP.

WEST AUSTRALIAN-BASED NORMAN GOMM, VK6GOM, TOOK TO HAM RADIO OVER FORTY YEARS AGO AND NOW AGED 82 HAS NO INTENTION OF SIGNING OFF JUST YET. AS ONE OF AUSTRALIA'S ESTIMATED 10,500 LICENSED HAM RADIO OPERATORS, MR. GOMM, IS ALSO THE PRESIDENT OF THE BUNBURY RADIO CLUB.

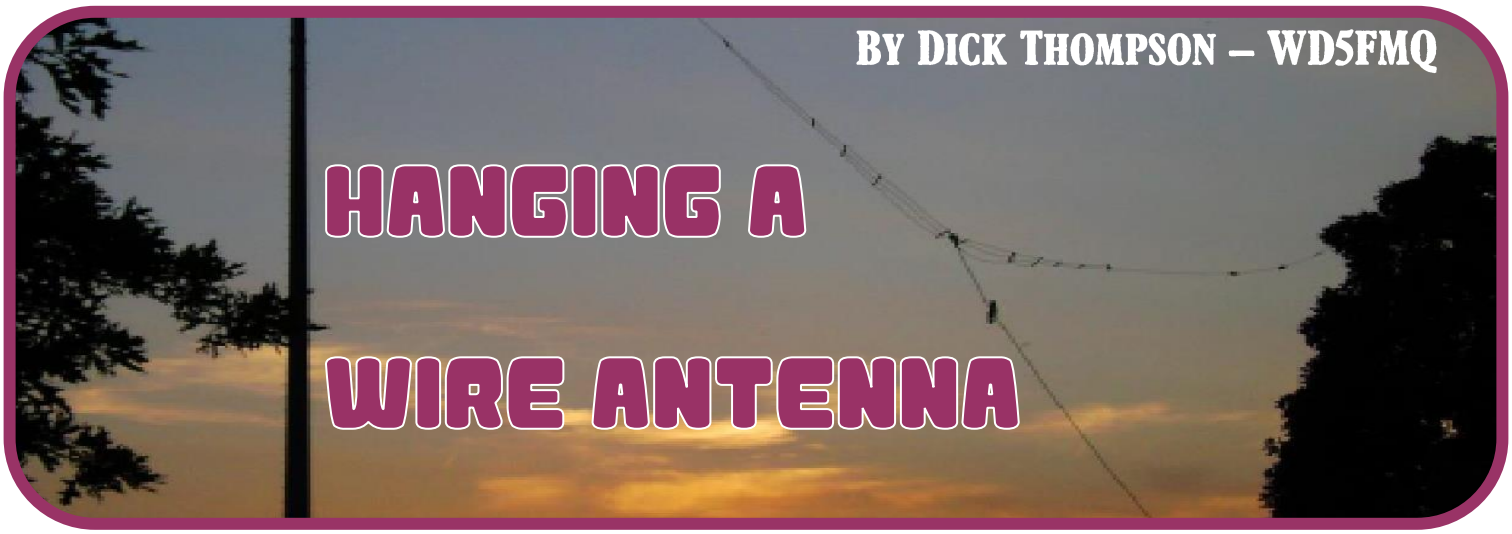
HE SAYS IT IS RARE THAT A DAY GOES BY WITHOUT HIM SPENDING AT LEAST A COUPLE OF HOURS IN HIS PURPOSE-BUILT 'HAM SHACK'. "I FIND IT'S VERY GOOD FOR ME," MR GOMM TOLD THE ABC AMID A DAZZLING DISPLAY OF FLASHING LIGHTS AND CRACKLING RADIO STATIC.

"I'M 82 YEARS OF AGE AND YOU NEED TO KEEP YOUR MIND WORKING ACTIVELY ALL THE TIME," HE SAID. "HAM RADIO REQUIRES A LOT OF COGNITIVE SKILLS AND A LOT OF UNDERSTANDING TECHNOLOGY, SO I FIND THAT'S VERY GOOD FOR KEEPING ME ACTIVE."

WATCH THE VIDEO AND READ THE FULL STORY AT:

HTTP://WWW.ABC.NET.AU/NEWS/2018-06-27/HAM-RADIO-HELPING-OLDER-HOBBYISTS-STAY-MENTALLY-FIT/9908468

WOULD YOU BE INTERESTED IN PRESENTING A PROGRAM FOR AN UPCOMING MONTHLY MEETING ON A RADIO RELATED TOPIC? OR, WOULD YOU LIKE TO HELP ARRANGE AND COORDINATE OUR MONTHLY PROGRAMS? CONTACT GLENN AT WB5L@ARRL.NET .



By Dick Thompson – WD5FMQ

HANGING A WIRE ANTENNA

Height is very important for a wire antenna. The higher, the better. You can accomplish this with an air antenna launcher (aka in ham circles a “potato gun”), unless you'd like the installation(s) to be more or less permanent.

That means that at each point the antenna wire is supported by a tree, or changes direction, you'll need wire supports through which the wire can slide as the trees move. Leon's ½-inch PVC supports (90-degree ½-inch diameter PVC elbow plus 90-degree ½-inch diameter PVC street elbow) seem to work well. I've used them, as well as plastic (PVC or other) conduit elbows.

Conduit elbows provide gentler curves for the wire inside them, but can't be put in place after the wire is strung. Leon's design can be placed any time during assembly.

For any of these supports, you’ll need cord to attach the support to the tree, and (preferably) a screw hook or eye to tie the cord to. This means the antenna wire must be someplace near each tree trunk that someone can climb up to, in order to install the support. To do these things, I find the minimum tools include an extension ladder; a bag in which to carry tools; a climbing belt; a battery-operated hand drill; screw hooks; drill bits; a pocket knife; cord to secure the wire support; and a pair of slip-joint pliers or vise grips. If you want an insulator between the wire support (PVC pipe or conduit elbows), take them up the tree, too.

You'll need to install wire supports at each end-point or change-of-direction in the wire. It's a good idea to have the far end of non-loop antennas attached to a small weight (3 lbs or so) so the wire can be pulled by swaying trees. Corners of loops can be similarly supported.

At the coax feed point (direct to the antenna wire or through a balun / unun), you'll need something to which to secure the end or mid-points (for a dipole) of the wire - a plastic plate, or something similar – and some electrician's wire nuts to connect a pre-wired / soldered S0-239 (or other) connector, or balun / unun, to the antenna, and maybe a ground rod and wire in the case of an unun. You'll need fasteners and tools to mount an end-point termination. A dipole balun will obviously be suspended by the antenna wire, and the antenna wire supports.

A good pair of lineman’s pliers will be useful for cutting

or bending/wrapping antenna wire, and plastic "wire ties" are good for holding wire in place. An antenna analyzer is a real help in tuning a resonant antenna before you lock the installation wire supports, string/cord, feed-point plate/mounting block, and coax tie-points, in place.

If you need a ground rod, I use a metal fence post driver – much easier than a small sledge hammer.

Now for the shack: If your antenna coax is going to enter your house between a window frame and sill, no problem. You can pre-install the feed-through connectors on a plate, seal the assembly against the weather, and you're ready to go when your antennas are installed.

If you're going to penetrate a wall or roof soffit, you'll need an electric hand drill, extension cord, and 3/4- or 7/8-inch drill bits (assuming your coax will have PL-259 connectors already attached). If you intend to run coax through an interior wall to an outlet box in the shack wall, you'll need 3/4- or 7/8-inch wood bits long enough to penetrate wall base or top plates. The plates are normally double 2x4s placed flat, plus the depth of the flooring (1/2" or 3/4"), or about 4-inches.

You may need an electrician's fish tape to pull coax to the outlet box hole in the shack wall, and of course, you'll need an "*old work*" outlet box, a stud finder, drill bits, drill, and a keyhole saw or hack saw blade to cut an outlet box hole in the drywall. Phillips and blade screwdrivers, of course, and miscellaneous pliers and wire cutters, too.

Once you get antenna coax and power (AC or DC) to your equipment, before you turn it on, it's a good idea to connect ground wire to all the equipment, especially those pieces which already have ground lugs or wing nuts. You can connect them in series, but that's not recommended. A ground buss, used inside standard AC breaker boxes, can be screwed to the back of a desk, and each individual ground wire running to the buss. The breaker box ground buss is available at Home Depot. I like to use soft 6-gauge aluminum ground wire from old satellite dish installation kits. It's easy to install and route. Of course, it won't carry the current that NEC (National Electrical Code) specified 6-gauge *copper* will, but if you need that much current, a lightning strike has probably gotten to you, and your stuff is likely fried no matter the ground wire. Anyway, you can then complete the grounding by hooking to a ground rod, but even if you don't, having all the equipment grounded together is a good safety measure, and may help minimize RF in the shack.

BVRC PLAQUE OF APPRECIATION PRESENTED TO HIGHLAND CHRISTIAN CHURCH

BVRC member Bob McIntire – AC5LX, presents our Plaque of Appreciation to Highland Christian pastor Paul Seal for the Club's use of the church's facilities. As Elders of HCC, Bob & Walt Gaspord – AF5XY (SK), arranged for BVRC to use of the Church's multi-purpose room almost two years ago. The spacious facilities are used for our Monthly Meetings & VE Testing, and we are most grateful to the church.

The photo of Bob and HCC Pastor Paul Seal has been added to the online photo album of the 2018 Christmas & Recognition Dinner.

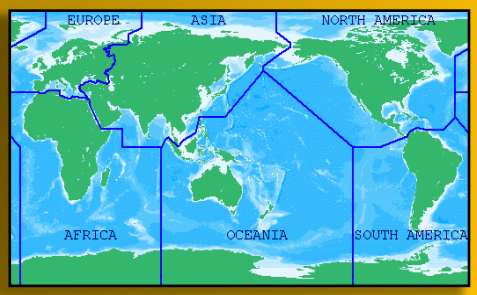
HAVE YOU WORKED ALL CONTINENTS?

By Don – K5DB

In my 50 years in amateur radio, I have acquired quite a few operating awards. I have Worked-All-States many times over in different ways, 5-Band Worked-All-States, 5-Band DXCC, 5-Band Worked-All-Continents, Worked All Zones, activated 13 National Park units during 2016's National Parks On The Air, have over 20 combined 1st-place finishes in CW and Phone Sweepstakes either with groups or as a solo op, and the list goes on. I have experienced and enjoyed all types of operating situations and venues and have myriads of memories that I will never forget.

But probably the nearest and dearest award to my heart goes back to 1970 when I was 15 years old. I'd been on the air with my Novice license for about a year, when I acquired my very first award – The Worked-All-Continents award. This award really whetted my appetite for all the other operating activities and pursuits that I've enjoyed over the years.

Why? Because in pursuing the WAC award, I learned about band conditions, band characteristics, greylining, foreign callsigns, tuning and listening and tuning and listening (no DX Summit or spotting networks then!), and above all – patience.



But the most significant element of the WAC award (sponsored by the International Amateur Radio Union) is that you do NOT have to work and confirm 50 states (as in the WAS award), nor do you have to work and confirm 100 countries (as in the DXCC award). *ALL YOU HAVE TO DO IS WORK AND CONFIRM 6 LITTLE OL' CONTACTS, one for each continent (which are: Europe, Asia, Africa, North America, South America, and Oceania).*

Nowadays, and with all the spotting aids available, sometimes during a DX contest you can do that in one evening! For sure in one weekend!

The WAC award is one of the oldest awards in ham radio. Brandon Wentworth – 6OI, was the first to qualify for it in 1926. If you've never thought about venturing-out and acquiring WAC, think about it…you'll have a *LOT* of merrymaking in pursuing it. Full award instructions, guidelines, and additional information can be found here. You'll have fun doing it and walk away with a handsome piece of "wallpaper" for your shack!

A crusade toward WAC is a great way to start the new year! Give it a whirl!

(Note: You must be an ARRL member to apply for the award – an advantage of ARRL membership!)

BVRC New Members!!!

John Bryant – N5SU
Elkins

Ed McCarroll – KCØDX
Bentonville

Jacob Chambers – N4EW
Rogers

Stan Stockton – K5GO
Rogers

Jerry Hamm – KG5CUT
Bella Vista

Royce Rainwater – KE5TC
Keota, OK

Steve Snyder – KI5BMS
Grove, OK

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Since the birth of The Signal last year, we have received e-mails from many of you commending us for the great job, and how much you are enjoying the newsletter. For this, we thank you kindly. -------

But! Many of the accolades and well-wishes we have received have been due to the exceptional article submissions we have received from some of our Club members! Many thanks go out to Steve Werner, Tom Carroll, Bob Rainbolt, Randy Banks, Phil Wright, Frank Majdan, Fred Lemley, Jay Bromley, Chuck and Lorrie Healey, Steve Little, Glenn Kilpatrick, and Ron Evans for all the great operating and technical information, and ham stories that you bestowed upon us in 2018. But what about the rest of you? We look forward to receiving more great articles from the above mentioned personages, ***but now the 2019 call for articles also goes out to you*** *– Are you working on a new kit or homebrew project? Have you recently received a rare or interesting QSL card or a new radio award to share? Or, do you just have a cool photo (ham radio related) 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 amateur radio related experience? Why not write an article for The Signal? The article can be short or long, simple or elaborate. Please include pictures! 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!)*

E-mail: arsk5db@gmail.com

Regular mail: Don Banta, K5DB
3407 Diana Street
Springdale, AR 72764