



THE SIGNAL



Newsletter of the
Bella Vista Radio Club



VOL. 2, NO. 6 – SEPTEMBER 2019

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:

3820 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

This month's features:

- ★ **MEMBER SPOTLIGHT — JAY BROMLEY, W5JAY**
- ★ **1ST ANNUAL BVRC CW ROUNDUP !**
- ★ **LONG TIME JOURNEY OF A SOMETIMES CW OPERATOR**
- ★ **COMMEMORATING APOLLO 11 — SPECIAL EVENT STATION N5A**
- ★ **ARRL SCHOLARSHIP RECIPIENTS**
- ★ **HAM 101 — R F I**

B V R C OFFICERS:**President****Glenn Kilpatrick – WB5L****Vice – President****Chris Deibler – KG5SZQ****Secretary****Wayne Patton – K5UNX****Treasurer****Marc Whittlesey – WØKYZ****Technical Officer****Steve Werner – K5SAW****Repeater / Club Call Trustee****Fred Lemley – K5QBX*****APPOINTED POSITIONS:*****Public Information Officer****Membership Coordinator****Ron Evans – K5XK****Emergency Communications****Paul Blomgren – KC7DQY****HAM 101 Chairman****Gregg Doty – N5RGD****V E Testing****Don Cooper -KC7DC****2-Meter Net Coordinator****Chris Deibler – KG5SZQ****Social Media Coordinator****Sheila Katz - KØETA****Newsletter Editor****Don Banta – K5DB****NEXT BVRC MONTHLY MEETING****THURSDAY - SEPTEMBER 5, 2019 - 7 PM****HIGHLAND CHRISTIAN CHURCH****1500 FOREST HILLS BLVD.****BELLA VISTA, AR*****SEPTEMBER
PROGRAM:******PROPAGATION:*****UNDERSTANDING THE
NUMBERS AND WHAT TO
EXPECT DURING THIS
SOLAR MINIMUM**

BVRC is honored to have ARRL's Central Division Vice-Director, Carl Luetzelschwab – K9LA, as our program speaker for the September meeting. Carl will be speaking on Propagation, what prop data means, and how to understand it. Carl will be appearing via Skype, and the program promises to be a very informative one, especially for those who work HF. Be sure and mark your calendar for another outstanding program.

Antenna Fun and Experiments Highlight BVRC August Program

A very interesting and informative program was provided for BVRC's August meeting by James Bennett – KA5DVS. James is a very knowledgeable radio amateur and well-versed in many, many technical areas of our hobby, but for his program James gave a stellar dialog on antennas, how they work, and how to have fun with them not only by use, but experimentation as well. His program's official title was "Fun With Antennas-Theory and Experiments".



James began the presentation with Webster's definition of an antenna: "A circuit that either leaks or collects energy in the form of a propagation electromagnetic wave." James took some very in-depth antenna principles, such as Maxwell's equations, and related them in easy-to-understand terms (it's too bad we were on time constraints, which prevented James from really delving into the information!).

James then discussed the basic antenna principles of reactance, resistance, impedance, and resonance. He explained the principles of dipoles – in particular half-wave dipoles, then verticals (and the importance of good radial systems used with them). James said that when it comes to radials, the more the better.

He then moved on to shortened antennas. James provided photos and illustrations of a homebrew vertical

antenna that he developed several years ago and named the "Pac 12" (Portable Antenna Concept 12). At the time of its construction, and after James made the materials needed and instructions available to the public, he said there were about 1000 of them in use worldwide.

The next topic was coil-loaded dipole antennas, and moving



on to magnetic loop antennas which he calls the "magnetic equivalent of a dipole". James said that even though the bandwidth of a mag-loop is very small, they *are* very efficient.

James then related a few of his many antenna experiments that he has conducted over the years, and provided excellent information, knowledge, and enjoyment.

James said that some good tools for antenna experimentation include:

- A receiver
- An SWR bridge and an RF source
- A noise bridge
- Antenna analyzer
- Network analyzer
- Reference material (ARRL Antenna Book, etc.)
- Simulation software

James then showed the club several actual antenna experiments. At one point James shared a humorous, lighter side of his program – yet VERY true! – when he said in discussing compact antennas: "There ain't no free lunch!",

basically meaning, don't fall for false advertising concerning small antennas, claiming to operate on any band and/or mode and delivering performance of full-sized antennas, such as a half-wave dipole. They probably will render a reasonable signal, but you *are* sacrificing performance for size.

However, James explained that the paramount goal that you are trying to attain with any antenna is *resonance*. He shared that at resonance, the inductive and capacitive reactances are equal and opposite, and cancel-out each other.

James we thank you for the great program, and we are very happy that you and your great XYL Kathy are BVRC members. After his superb presentation, it makes you want to "Get out there and have fun with antennas!"



**BVRC Vice-President
Chris Deibler – KG5SZQ
presents the BVRC
plaque of appreciation
to James – KA5DVS
for his great program**

BVRC VE REPORT

August 10, 2019



Congratulations!

Luke Kessler – New Technician!!!

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!*

**NEW BVRC
MEMBERS**



Scott Eller – KI5FJU – Centerton



ARRL
The national association for
AMATEUR RADIO

Have you joined yet?

K5ITM & KG5WOC – Kudos to Will, Jen, and 12-year-old son Luke! Luke passed his Technician exam in mid-August and is expecting his new callsign at any time!

KI5DUU – New member Dallas is 16 and a junior at Bentonville West high school in Centerton.

K5DVT – Jon has started his 1st year of pre-engineering studies at the U of A and is looking forward to getting involved with the renowned W5YM radio club.

WB5L – Sincere condolences to Glenn for the recent death of an adult daughter in Georgia.

KG5ZCI – Bill is restoring a collection of vintage [“All American Five”](#) radios.

KW5ARC – Ryan (ex-K5UME) teamed-up with new member Scott/KI5FJU and friend Trey/KI5FFJ to assist with Tour de Cure communications in early August.

KI5DUV – Bonner is now working HF from his Posey Mountain QTH near Garfield using an ‘Inverted V’ antenna and his ICOM IC-718 transceiver. Bonner also reports that Ron/K5XK was his first on-air contact, which was on VHF.

W5XNA – Congratulations to Tom, who is now an *Accredited Volunteer Examiner* with the W5YI and ARRL VE programs. Also, following the N5A Special Event station, Tom reported: *“I watched the Apollo 11 moon landing with a few of my buddies from high school. Little did I know that 50 years later I would be operating a special event station commemorating that achievement with some of the best amateur operators in the hobby. I learned so much from watching, listening, and trying to apply it all. I especially enjoyed teaming up with Dallas (KI5DUU) for several QSOs. He is a fine young man, an avid learner, and represents the very best for the future of our hobby.”*

KI5FAQ – New member Greg is exploring opportunities to tie-in amateur radio with ballooning, recommending www.habhub.org to track area balloon flights.

KCØDX – An avid astronomer, Ed enjoyed viewing the Perseid meteor shower for several nights in August.

WAØTDQ – At WØJLY(SK)’s recent memorial service, we learned that Hugh has moved to Webwood Assisted Living in Neosho, MO. Hugh is a valued longtime member and a former president of the club. He will be 96 on 2/3/20.

K5XK – Ron has acquired a 6-band [K4KIO](#) Hexbeam to replace his HF Quad.

NM5AB – Noel has begun checking into the 3820 Roundtable, but needs assistance improving his new HF antenna.

N5SU – John is getting re-acquainted with CW after 57 years, having acquired a keyer paddle finely [crafted](#) in the Ukraine by Yury – UR5CDX.

KI5DJP – Scott is using FT-8 mode and is also pursuing Morse Code with his new [White River](#) version of the new Kent SP-1 paddle.

K5DB – Don will be making his yearly trek to the state of Kansas for the weekend of August 24-25, to run mobile in the Kansas QSO party. He will be using the special callsign NØT. He hopes to hear work some NW Arkansas folks, hopefully on 40-meters during the daytime and 80-meters around 6-8 pm Saturday evening.

BE SURE AND SEND-IN YOUR HAM RADIO ACTIVITIES, PROJECTS, ETC. SO WE CAN PUBLISH THEM IN THE MEMBERS’ CORNER COLUMN! LET US KNOW WHAT YOU’RE DOING! Send your info to either Ron – K5XK at : k5xk@arri.net, or Don – K5DB at: arsk5db@gmail.com.

BVRC



MEMBERS’ CORNER

**From BVRC
Membership Coordinator
Ron Evans – K5XK**



BVRC Member Spotlight

JAY BROMLEY W5JAY



Jay & his lovely XYL, Kathy – WQ5T

It's with great pleasure that we feature for this month's BVRC Member Spotlight, one of the more renowned radio amateurs in the state of Arkansas, and one who – along with his XYL, WQ5T – we are fortunate to have in the Bella Vista Radio Club, Jay Bromley – W5JAY. Jay is a veteran ham operator, first getting his license in 1972 under the Novice call WN5JZX, which expired 2 years later. Then, in 1976, 16-year-old Jay braved the trek and the traffic of the metro Dallas/Ft. Worth area and drove himself to the FCC office in downtown Dallas, where he passed his General exam and became WA5DGH. He became W5JAY in the '90s.

Among his many awards and accolades, Jay currently has worked a total of 328 DX countries (entities), and has amassed DXCC (working at least 100 countries) on not one, not two...but *NINE* different bands!

In his last employment, he worked as a Cellular Technician for Alltel Cellular for about 15 years. "Mainly I installed new gear and provide maintenance for the MTSO (Mobile Telephone Switching Office) and cell sites. I got to see the company go from analog to digital. I loved the remote mountain top cell sites and wish I had spent more time taking a few pictures of the scenery to share with folks. I am sure they will become classics if I had", Jay said.

When asked how he discovered ham radio, Jay related the story to us: "I was very young and memories are faint being so young. When I was a 3-year-old toddler and we were on vacation in New Mexico. There was a ham operating mobile with his doors open in the parking lot space next to us. With limited air-conditioning back in the 60s it was not uncommon for folks to have their motel doors open to get a cool breeze. When my parent's backs were turned, I sneaked outside and crept between our car and the ham's open car door. He was on the air making SSB contact. However, I didn't know what the SSB was back then. It sounded like ducktalk and I am sure that's what cause me to investigate to see where that weird sound was coming from. I was fascinated by the tubes glowing and the huge meter. All this was right under the passenger side glove box. Cars in the 60s were huge and there were tons of room to put a mobile rig like that under the dash. I bet this was a Swan tube rig and the whole setup was burned into my memory. Then all the sudden I remember my mom grabbing me up. She wasn't too happy I slipped away from her. Growing up in the late 60s and early 70s, there were all these

shows on TV and they were using two way radio. Shows like Lassie, Flipper, and then the biggie – NASA's mission control."

"We had wish books like Allied Electronics, Burstein Applebee, Lafayette, Heathkit and BlueBook to fuel the fire. I wore the pages off the wish books looking and dreaming of all that radio gear. There were magazines for CB, SWLing, and ham radio. Even when I was 6 years old, I asked Santa to bring me an Archer Space Patrol base station walkie talkie from Radio Shack (Tandy). I didn't get it that year, but later got a similar one from Lafayette. That one had AM band receive, tunable CB band, and even a straight key built in! As kids we didn't know or care about resonance, we were constantly trying to communicate further. We would string up a wire and then wrap the wire around the telescoping antenna. We rode 10-speed bicycles and anyone with an outdoor antenna was fair game. I was too shy to just knock on the door; I would circle around the block until someone came outside. Even then, it took many days to finally ask the big question: "Hey mister what is up with that antenna." That would usually get me a shack visit. I drove all the older hams down in Fort Smith nuts back in the day! Much has not changed to this day, ha ha."

Jay said his elmers, Charles – W5JE and John Aubrey – will always have a special place in his heart: "They had novice classes. I am sorry I have forgotten John's callsign. By the way, those were *all teenager* classes. I don't remember a single adult being in them. I do remember our elmer's gear! – Drake, Hallicrafters, EF Johnson, Hammarlund, etc., big tubes and meters! Oh, quad antennas were all the rage back then as well. Everyone that was anyone had a two-element quad up about 30-50 feet! When I got older in the late 70s and early 80s, I discovered 10-meter AM! I had a bunch of new elmers that are still living to this day – K7VZY, K4KVY, and WA1HLR would teach me how to fix, build, and modify old gear to make it sound and operate better. I loved taking a broken EF Johnson Ranger for say \$30 and making it work again. I was hooked for life."

As far as his favorite operating aspects of amateur radio go, Jay says he doesn't have the time or money to do everything he would like to do. He says he's an old "AM-er" first. Decades ago, he fell in love with the audio portion of receiving on that mode. He also likes to DX and dabble in contesting as well as digital modes including RTTY and FT8. He and his wife Kathy and really got involved in QRP back in the late 90s and continue to this day. This year, he got on 6-meters for his first time, and says he has taken a definite interest in that band.

Jay's current station equipment lineup consists of an Apache Labs SDR, an Alpha 9500 amplifier, with a Palstar AT4K tuner for SWR touch-up when he is on the 80 and 40 meter fan dipole. When using his open line feeders, he uses the old EF Johnson KW Matchbox. But, still not abandoning his love of AM, Jay still has a Johnson 500, Johnson Valiant, and a Ranger I and II in the closet. For a vacation rig, he has just built up a KX3 QRP setup. Another newly built QRP component was the QCX QRP labs 20-meter rig. Jay is waiting on fall to get here so he can play outside more with the little QRP rigs.

For other past times, Jay says he likes "DIYstuff" in anything he undertakes: "Motorcycles and cars I love, but my back is no longer strong enough to do all that. Kathy got me interested into shooting again but standing for a long time is just too hard. Another love was DIY Hi-Fi audio for home stereo and that has even carried over to ham radio some. My last Hi-Fi stereo setup was all tube that I hand built. It was a single ended 572, what was driven by KT88 and 6SN7. Even the CD player had a tube line output. It sounded awesome and everyone who heard that setup where awed. Funny to see the faces of young musicians react to that setup. That got me into building a few tube guitar amps as well.

YOUNG HAM LADS FROM NW ARKANSAS ACHIEVE ARRL SCHOLARSHIPS

Congratulations from THE SIGNAL to a pair of fine young gentlemen from the NW Arkansas region, not only in graduating from high school, but also in achieving ARRL scholarships!

Jon Williams – K5DVT: John is a graduate of Huntsville High School. John is the son of Carol Williams – KF5OQF. In addition to being a top-notch VHF/UHF operator and technician, Jon also was a standout in the HHS band throughout his educational years at Huntsville. Jon is the recipient of the ARRL Foundation General Fund Scholarship. Jon is also a member of BVRC.

Jonathan Stone – KF5COP: Jonathan is graduate of Alpena High School, and the son of Scott and Shelly Stone – KE5CPA & KE5DX. He is also the grandson of John Allan & Sharon Jones – W5OX & WA5FOX of Harrison. (Also cousin of Don – K5DB.) Jonathan graduated from Alpena High School where he is a charter member and first President of the Alpena High School Radio Club (W5AHS). Jonathan was also Salutatorian of his Senior class, and garnered All-State honors in basketball and golf. Jonathan is the recipient of The Bill Salerno-W2ONV and Ann Salerno Memorial Scholarship.

See page 95 of the new September issue of QST for the salute to these fine young men.



WHAT'S IN A CALL?



Jeremy (ex-KCØSYN), recently acquired the new callsign **K9DPT**. It originates from his background in law enforcement as a McDonald County canine officer – therefore “K9 Deh-Pu-Tee”! Unfortunately, Jeremy sustained a debilitating injury while responding to a call near Noel that has currently curtailed his beloved career. Jeremy was one of our invaluable “behind the scenes” personnel at this year’s BVRC Field Day. We appreciate you Jeremy!

THE FOLLOWING NOTATION WAS POSTED ON A RECENT HAM REFLECTOR:

“LOOKING FOR A RECOMMENDATION FOR AN ELMER/ELMIRA FOR A HAM THAT LIVES IN EAST LYNN, MO. PARTICULARLY INTERESTED IN HELPING A NEW HAM GET A 2-MTR ANTENNA A BIT HIGHER UP.”

“ELMIRA” IS A NEW ONE, BUT IT SURE MAKES SENSE!

----- THANKS TO BOB-WB0AUQ FOR CONTRIBUTING THIS CHUCKLE



ANNOUNCING THE 1ST ANNUAL BVRC CW ROUNDUP



Date: Saturday, Nov. 9, 2019

Time Period: 0000 – 0300 UTC (6pm – 9pm local time)

Frequency: 3.540 – 3.560 kHz

Operating classes: **CLASS A** – BVRC member – Experienced CW operator
CLASS B – Newcomer or newer CW operator (BVRC member or non-member)
CLASS C – Non-BVRC member – Experienced CW operator
CLASS D – Listeners who copy and log only, with the use of FL Digi, code readers, etc.

CQing: Send “CQ CWR CQ CWR”

Exchange: Signal report (including operating class) / QTH (your location) / name

Example: You are a newer CW operator and you are in QSO with K5XYZ. Their signal is readable, their signal strength is registering a ‘7’ on your S-meter, and their signal tone is good. ----- Your callsign is W5ABC, you live in Bentonville, and your name is Albert. You would send something along the lines of:

K5XYZ DE W5ABC $\overline{\text{BT}}$ (break)

RST IS 579 B 579 B $\overline{\text{BT}}$

QTH IS BENTONVILLE, AR BENTONVILLE, AR $\overline{\text{BT}}$

NAME IS ALBERT ALBERT $\overline{\text{BT}}$

HW CPY? (How did you copy my transmission?)

K5XYZ DE W5ABC K (Over)

The other station would then reply with their information using the same format. After the exchanges are completed, short informal remarks can be made during the QSO, after which the contact would end with something along the lines of:

TNX FER QSO (thanks for the QSO)

GL ES 73 (Good luck and best wishes)

K5XYZ DE W5ABC $\overline{\text{SK}}$ (end of contact)

Description of event: This 3-hour event is not a contest. Rather, it is a celebration of our area CW newcomers, returners to the mode of CW, and listeners. It is also intended to enable our veteran CW operators to enjoy helping the newcomers in making CW contacts. There are no points scored, and no results or standings posted. You do NOT have to be member of BVRC to participate.

A handsome certificate will be available to each participant submitting a log entry from the event.

Send logs no later than Saturday, Nov. 23, to Don Banta – K5DB:

Regular mail log: Don Banta
 3407 Diana St.
 Springdale, AR 72764

Electronic log: arsk5db@gmail.com
 Attach file: [call].log



SPECIAL EVENT STATION

N5A

COMMEMORATES THE 50TH ANNIVERSARY
OF THE FLIGHT OF APOLLO 11



There are several Bella Vista Radio Club members, who are also members of the Razorback Contest Club. RCC was formed in 2015. The club is mainly comprised of veteran contesters from all over NW Arkansas, however it welcomes newcomers interested in this exciting aspect of the hobby, and elmers them into the amateur radio contesting realm. The main goal of the club is to enable the members to continue to improve their operating skills and techniques, while experiencing fun and competitive enjoyment. They participate in several ARRL contests, as well as some state qso parties, and occasionally conduct Special Event Stations.

The latter was the case during the weekend of July 20-21, as the club conducted the activation of Special Event Station N5A (November-Five-Alpha, or.....“Nasa 5 Apollo”) in celebration of the 50th anniversary of man’s first moon landing during the flight of Apollo 11.



Steve – W5KI made many folks happy with an N5A QSO during his SSB stint on Sunday



Tom – W5XNA makes one of many SSB contacts with Damien – K5ZB logging

During this special event activation, they welcomed Steve Norris – W5KI & Tom Northfell – W5XNA (also BVRB members) to the RCC ranks, in addition to two other youth hams, Dallas White – KI5DUU from Bentonville (BVRB) and Damien Stimson of Green Forest – K5ZB. Dallas and Damien were very impressive for their first time in logging and working pileups! In a just a matter of time, they will be first-class contesters and S/E/S operators. They are both 16 years of age. Congrats Dallas and Damien for the great work on the HF airwaves during N5A!

The top story for the special event weekend was the propagation! 20 meters came in around 8am local time, and *stayed open* until around 11pm to midnight! 40 meters was also excellent.

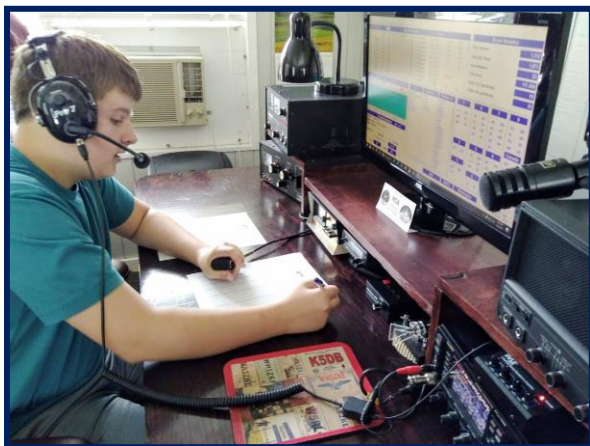
With the exception of 2-3 "lulls", N5A experienced a continuous, massive pileup for the entire weekend. In total, N5A combined 361 CW contacts and 1502 SSB contacts for a grand total of **1,863 QSOs**. All 50 states were worked in addition to working 8 of the 13 Canadian provinces. RCC was especially excited with working quite a few DX stations including Puerto Rico, Japan, Mexico, Australia, New Zealand, Argentina, Germany, and the Isle of Man. At press time, the total # of QSL cards received is nearing 450, and QRZ.com over 6900 hits.



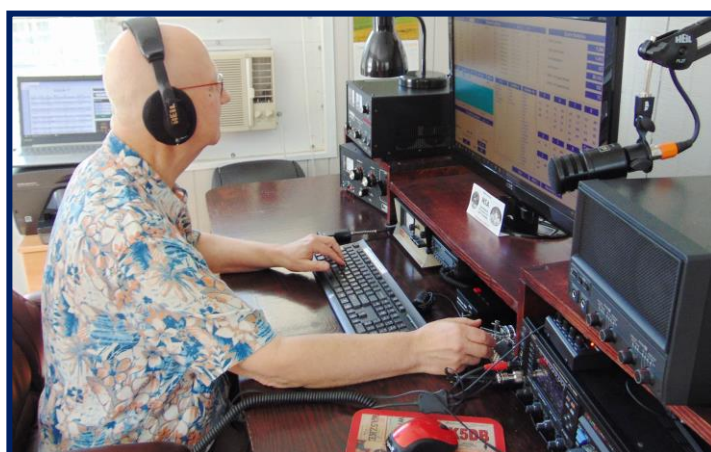
Paul – KK5II, having just completed his period of operation on SSB, observes John – W5OX from Harrison, as Tom – W5XNA logs



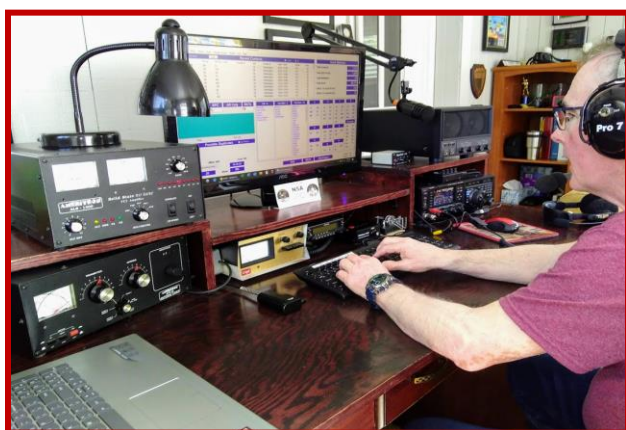
You can tell it's serious business with Mark – K5XH, as he makes a lot of folks happy with many N5A Apollo 11 QSOs



Dallas – KI5DUU racking-up the QSOs on SSB



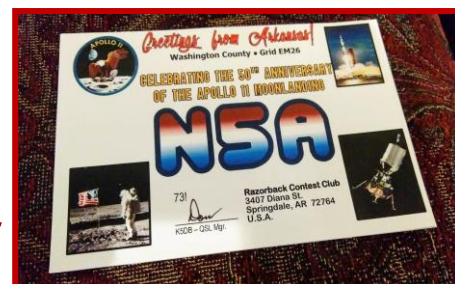
Ron – K5XK made the most CW QSOs, making many folks happy on that mode



Don – K5DB at the mic adding to the N5A SSB aggregate

A total of nine operators of the Razorback Contest Club enjoyed a great special event weekend, along with the snacks and ham fellowship during the N5A / Apollo 11 activation.

RCC will be looking to activate another special event station in the near future.



The N5A QSL

FUN AT TOUR-DE-CURE



Ryan – KA5ARC and his friend, Trey – K15FFJ recently assisted in emergency communications for the 2019 Tour-de-Cure bicycle race for the American Diabetes Association. Trey advised they had a blast. The weather was rainy at times with a few wind gusts, but bearable! They encourage those who may want to participate in similar future events, including next year's T-D-C.

Wayne Carroll – W4MPY “The QSL Man” Silent Key

“The QSL Man” Wayne Carroll-W4MPY of Aiken SC, passed away on July 3. An ARRL member, he was 87. He was first licensed as W5QDF in his native Texas and became W4MPY when he relocated. For many years, starting in the 1970's, “Wimpy” (as he was well-known) and his late wife Lola-N4KAI, started what he called a “part-time QSL printing business” from his home. His business boomed, and he continued it into his retirement. A serious CW DXer, Carroll studied electrical engineering at Texas Tech. Many BVRC members at one time or another in past decades have had “The QSL Man” print cards for them. His cards were excellent quality for the price, and he provided excellent and timely service. RIP, Wayne.



Susan – K15CXH

While she works on an exterior antenna solution, here's a photo of Susan, K15CXH, out in her Cave Springs field near her home – or “out-standing in her field” – getting ready to participate in the Wednesday night Wide Area Net.



Alongside her is Kaydee, her registered therapy dog. Susan has alleviated her indoor issue by utilizing a mag-mount antenna and with a coax extension from her handi-talkie, allowing her to use her radio from the comfort of her home.

BVRC CLUB ACCESSORIES!

Show you're a proud
BVRC member with:

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



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

LONG TIME JOURNEY OF A SOMETIMES CW OPERATOR

By John Bryant – N5SU

John Bryant – N5SU, is not only a member of BVRC (from Elkins), but he also is one of the superb moderators each month on the 3820 Roundtable.

I would like to share with my story of how I got there – a long journey from straight key, to semi-automatic "bug", to lambic paddles and finally, to a single-lever key.

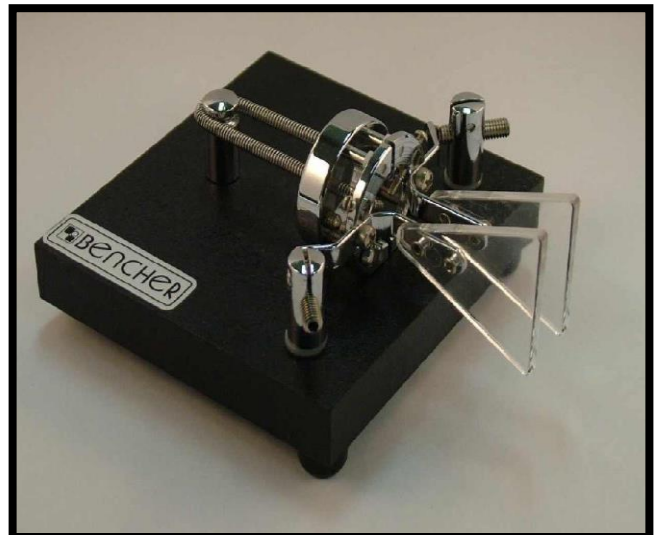
Long, long ago, I caught the CW (Morse code) bug. That was when I was a 16-year-old Novice Class licensee and, for practical purposes, that's all there was for Novices. But I was so excited that, from my bedroom, I could communicate with other Hams in distant places that CW was Fine Business. In fact, even though I could hardly wait to get my General license which would enable me to plug in that shiny microphone in the drawer, I still found CW challenging and exciting ... certainly something no other kid on my block could do!

Soon, I saved enough pennies and dimes from my allowance to purchase a real "bug". Not like the contagion I had for CW and not the kind of bug you squash on the sidewalk. But a semi-automatic key, a strange pendulum-like device that could produce a string of "dits" as long as one pressed the paddle in one direction. Pressing in the other direction was like a straight key...transmitting a single Continuous Wave as long as you held it down. So that side was used for manually creating your "dahs". Bugs were quite popular among CW ops before electronic keyers came along. By that time, I had acquired my General and both my original straight key and the "bug" were mostly catching dust on the shelf. But truthfully, they did get blown off from time to time as I found few youngsters my age on the phone bands which were, at the time, rapidly being overtaken by "sidewinders" (SSB) who were mostly cliques of daily rag-chewers that weren't very hospitable to any still 'wet behind the ears' teenager. Thus, gradually college and later adulthood and marriage, pushed amateur radio way down the priority pole.

Skip ahead 30-40 years or so, and on into retirement, when I sort of accidentally stumbled back to an interest in hamming. I'd never let my license lapse, so why not at least throw up a dipole, grab an inexpensive modern transceiver and, of course, some kind of new code gadget to accompany that microphone on the desk. The first bargain that came my way was a stately looking Bencher BY-1.

Only after I'd brought her home did I learn the BY is an "lambic" paddle.....What did that mean? I knew about lambic Pentameter from English class, but what did that have to do with tapping out CW? Still don't have the answer to that, but I found out once I plugged her into my modern transceiver with built-in keyer that, in addition to the left paddle keying a string of dits and the right a continuous series of dahs, an alternating pattern of dits & dahs came out when the two paddles were squeezed together. Hmm, what use could that be? Well, as it turns out, a few keystrokes can be eliminated, on certain characters, by "pinching" the paddles.

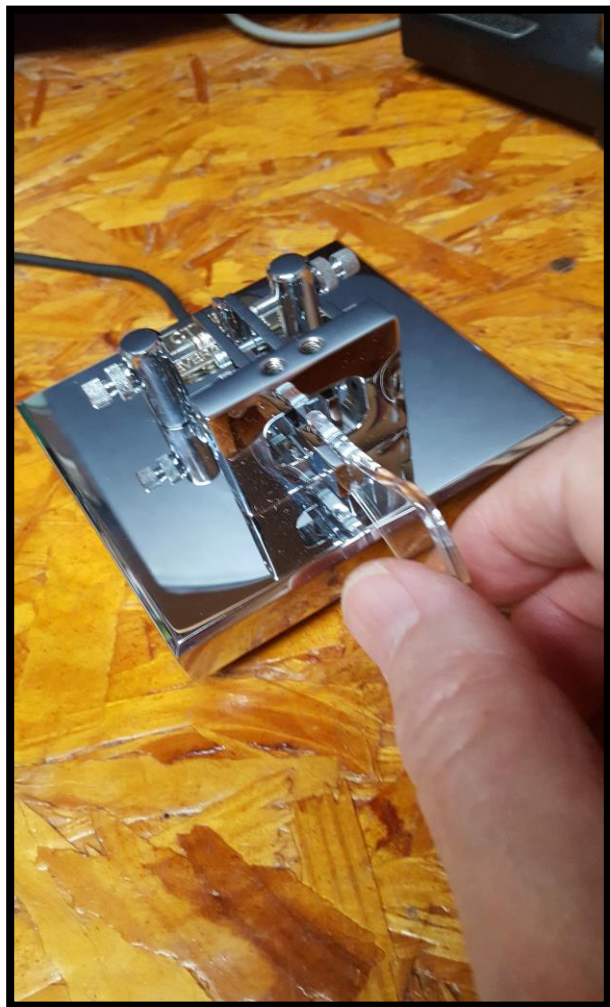
Wow, how many CW operators are doing this "pinching"? After a



quick, unscientific, survey of long time CW buffs...*not very many* I found. In fact, virtually none were using the iambic capability, even though they were using iambic paddles. Nearly all said they didn't learn to send that way, but most were still using iambic paddles. However, a few were using "single lever" paddles because they found that iambics just caused more mistakes. Yes, MISTAKES. – that's the key (no pun intended) to why I was often cruising along with near perfect CW and then, out of nowhere, an extra dit or dah would be sent. I was inadvertently depressing both paddles at the same time...the dreaded "pinch" effect. It was like an epiphany. Already struggling as I was to get my long dormant skill back up to speed, I had unknowingly added an additional handicap. But what was the alternative? Do they actually make paddle keys that aren't iambic? Well, yes, they do. They're called "Single Lever" paddles. Legendary Vibroplex has been making the "Vibrokeyer" since the dawn of electronic keyers. Bencher even makes a single-lever version of its BY-1&2 series...they're the ST-1&2. Many of these are just modifications of their original iambic design and, in the case of the Bencher ST series, reputed to be kind of sluggish since, instead of the independent paddles rocking on their individual pivot points, both paddles are attached to a solid, rather than split, ring which awkwardly wobbles back and forth between the two original pivot points.

Most of this awakening came from a good ham friend of mine in nearby Oklahoma who boasts a long background in CW, going back to his time in the military and later a civilian ship-to-shore operator on the east coast. All his keys are single lever, starting with a Vibrokeyer. But his pride and joy is his all-brass, magnetically tensioned K8RA Key. When he let me send a few characters on it, I was momentarily in Heaven....sooo smooooth!

Unfortunately, K8RA – Jerry Pettinger became a SK a few years ago and his keys have become increasingly difficult to find since those lucky enough to obtain one have no plans to give them up. But being one to not give up before shaking every tree, I eventually came across a positively reviewed single-lever paddle crafted by a ham in the Ukraine. Yury Shevchenko – UR5CDX has a line of product that, judging from pictures on his website, he assembles himself. (<https://www.ur5cdx.com/index.php?language=en>) Also look him up on QRZ.com for his interesting bio and more pics. Despite the beautiful craftsmanship, his prices, even after shipping, are quite competitive.

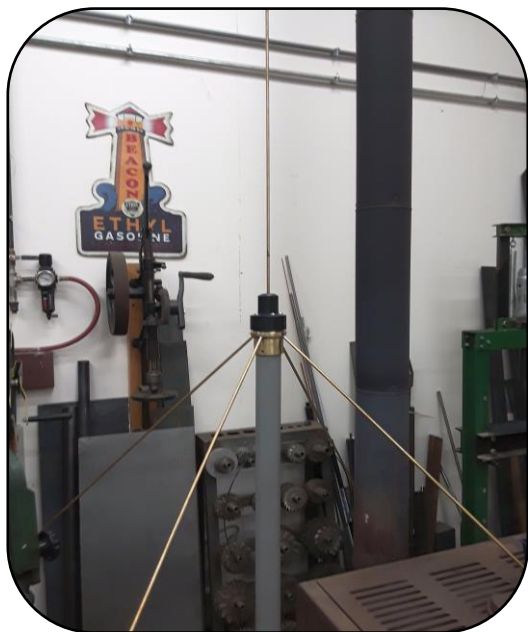


The photo at left shows my new keyer. I will have a follow-up for you on its performance and how it is working for me in a future issue of THE SIGNAL.

Until then,
BCNU LTR OM ES BEST 73 ES DX!



*The Largest and Fastest Growing
Amateur Radio Club
in Northwest Arkansas !*



The KG5ZCI Ground Plane Antenna

BVRC Fayetteville resident Bill Durham – KG5ZCI has constructed a dandy looking and performing ground plane antenna for 146 MHz. The antenna can also be configured for 225 and 445 MHz.

Bill says, "I started with a piece of 1.5 in brass bar stock and hollowed it out to hold a PL259 connector. I left enough brass at the top to solder in some brazing rods for the radials. I spent a lot of time getting the setup to drill the 4 holes at 45 degrees. The black top is a piece of Delrin to act as a support for the vertical. Soldering it to the center section of the connector was not very strong. I added an o-ring to keep water out at the very top. I basically copied a clothes hanger design that Dan gave me. I don't have the reference. It is mounted on a 20 ft mast on top of my shop building with a metal roof 15 ft high for a total of 35 ft. No tuning was required, the antenna was resonant with a very low SWR as built. The resonance was wider than I have seen with some other antennas and covered the much of the 2 meter band with good SWR. I have about 60 ft of RG58 going to a Kenwood TM-733. I am very happy with the performance. I can pick-up several of the local repeaters even Poteau once."

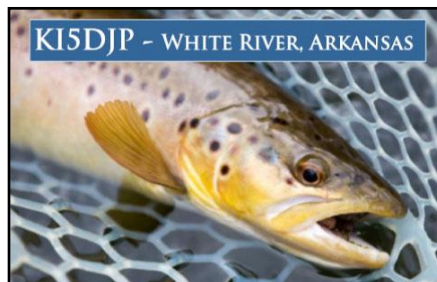
KI5DJP – Field Day Operation & New QSL!

One of the newer hams in our area is Scott Branyan – KI5DJP, who is also a trout fishing guide. Scott is also one of our several newcomers to the hobby who has shown a keen interest in learning CW, and he is making excellent progress.

During the recent ARRL Field Day, Scott operated for some of the event from his teardrop trailer. "I put up a G5RV Jr. in an inverted V but forgot to put-in the air core balun at the connection to the ladder line. The radio tuned, but I don't think it got much signal out. Anyway, I was exhausted and called it a night. But at least, I know I have a workable system for on the road", Scott said.



Scott also has a dandy new QSL for all the folks fortunate enough to work him. Congrats on the new card, Scott!



Neat HF Handouts Info from Jay – W5JAY

Jay Bromley-W5JAY wanted to augment the HAM101 article from last month's issue on HF operation, and pass along to all interested parties, that the ARRL has handouts that contain message handling procedure, Q-signals, prosigns, and the great ARRL band allocation table, that can be downloaded. Follow these links to these very handy materials (and thanks, Jay!):

<http://www.arrl.org/files/file/Public%20Service/fsd218.pdf>

http://www.arrl.org/files/file/Regulatory/Band%20Chart/Band%20Chart%208_5%20X%2011%20Color.pdf

HAM 101

THE SIGNAL Monthly Column for New Hams

RFI ---

HOW TO PUT YOUR SHACK ENEMY ON THE RUN

RFI – Radio Frequency Interference has been with us for a long time. It can unexpectedly (and aggravatingly) occur anywhere at any time. RFI can develop from a multitude of variables: bad coax (shielding is insufficient), bad connectors, poor internal shielding of the electronic device (TVs, radios, computers, garage door openers, test equipment, etc.), and many others. It can lock-up computers, cause VFOs to jump frequency, cause terrible emissions in the transmitter component of your transceiver, and many other occurrences.

If you basically run low power on your ham rig, you probably will have little or no trouble at all with RFI. But if you decide to place an amplifier in-line, you may get introduced to the “RFI world”, not only in your radio equipment, but many other devices throughout your house. And if your significant other enjoys TV or Facebook on her PC, *THAT* can cause serious problems. What are you going to do – take the amp back to the store for a refund? Or – get rid of that pesky RFI and make everyone happy?

That’s the good news! – you don’t have to put-up with it! Put “Ol’ Man RFI” on the run! You may have to sacrifice some extra dollars to do this, but it is a very simple project and can be alleviated very quickly.

The answer basically lies in two solutions: ferrite beads and toroid cores.



Ferrite beads and toroids are made of the same materials that are used in broadband transformers, but the ones *you* would use are made for much higher frequencies. Ferrite beads and toroids are sold in different “mixes”, meaning that the material in them is comprised of different combinations of elements for different frequencies.

For example, ferrite Mix-43 is used for tuned circuits in the frequency ranges 0.1 to 1 MHz. It is efficient and losses are low. But – if it used in the 1 to 1000 MHz range, it is lossy. So, when you clip a bead of Mix-43 over a wire and there is RF in the 1-1000 MHz range going down the wire, it is just as though you placed a resistor on the wire. But you did not have to cut the wire to insert the resistor; you just clip a

bead over the wire. If the resistance of one bead is not enough, you can add more beads or add longer beads to get more resistance. The beads, unlike a resistor, do not affect the wire at low frequencies, so the audio, DC, or other low frequency components go through the wire, as though the bead were not there.



Ferrite beads are excellent for situations where the plug/connector on the end of a cable is too large to go through a toroid (toroid discussion coming up!). The bead is split and simply slips (or clips) onto the wire or cable, then it is closed and locked onto the cable. As shown in the picture above, sometimes looping the cable through the bead several times enhances the resistance of the bead, which can be very beneficial in eliminating RFI.

Ferrite beads can be used anywhere to choke-out RFI. There are various methods in using a ferrite bead, and you can find those on websites devoted to this subject. But the simplest thing to remember when installing a bead on a cable is usually to locate the bead as close to the electronic device as possible (this is in regards to power cables for computers, TVs, washers, dryers, and other appliances and components), as illustrated in the picture above.

When you buy beads you must specify both the physical size of the inside diameter of the bead, and the material (Mix-43 for example).

There are three bead materials in general use:

Mix-77, Mix-43, and Mix-61. Mix-43 is the best for all-around use. It works from 1-1000 MHz. Mix-77 is a little better at the lower frequencies, so if your major problems are occurring on 80 and 160 meters, use that one. Mix-61 is a little better on the higher frequencies, so if your problems are mostly on 2 meters and up, use it for that range.



Again, ferrite beads are excellent for choking-out RFI problems in mostly household electronic devices: computer, TVs, DVD players, burglar alarms, landline telephones, smaller coax sizes, etc.

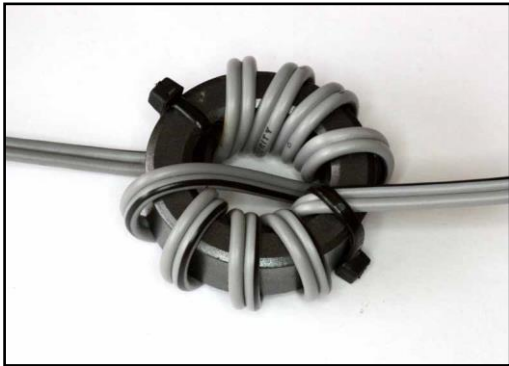
Now, let's talk about TOROIDS:

Toroids can come in really handy when dealing with COAX. When we start talking about slipping beads over coaxial cable and making several loops in the bead with larger diameter cables such as coax, this becomes impossible because the bead hole is not big enough. Fortunately, a variety of ferrite toroid cores are available with holes as large as 1.4" diameter.



Mix-43 and Mix-61 are available in toroids, and you would use them for the same application as in the ferrite beads.

When wrapping a smaller cable around a toroid, you can wrap it tightly using zip ties to secure the ends to the toroid as in the picture below:



Sometimes however, this is not possible with coaxial cable, especially such as RG-8. When you put that big plug or reasonably sized coax through the toroid hole several times, you'll find that the toroid fits the cable very loosely, as in the lower right picture on the preceding page. – Don't worry. – It will still work fine. If there is room to do it, loop the cable around and run it through the toroid again. Do this as many times as you can. Each turn is like adding another toroid.

Whether you use a ferrite bead or a toroid, that will be up to you and the characteristics of the problem.



The above picture shows the solution that this ham operator used when RFI was plaguing his computer monitor, using both a toroid and a ferrite bead. The RF was choked-out in this case using a toroid for his power cable (on the left) and a bead was used for his HD cable coming from the computer (on the right). For more insurance against RFI in this scenario, he also used a larger ferrite bead with several turns through the bead on the other end of the HD cable coming out of his PC. This solved the problem! 'Ol' Man RFI" no longer aggravates him.



Each RFI problem is different. You have to try this, and try that, until you find a solution. Using the basic principles in this article can be extremely helpful.

Here are a few locations where you can obtain beads and toroids:

<https://www.dxengineering.com/search/product-line/dx-engineering-ferrite?autoview=SKU&sortby=Default&sortorder=Default>

<https://palomar-engineers.com/> (experts in this area)

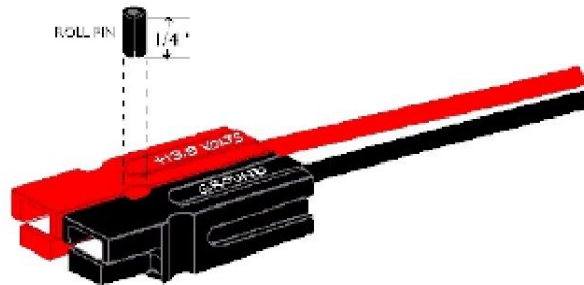
<https://www.mfjenterprises.com/productsearch.php> (decent prices)

And, of course, Amazon!

https://www.amazon.com/s?k=ferrite+bead&crd=19QW9ZWQ2R1D&srefix=ferrite%2Caps%2C237&ref=nb_sb_ss_i_4_7

POWERPOLE CONNECTORS

Anderson Powerpole® Connectors have become the standard for 12 VDC interconnectivity in the Amateur Radio emergency field. You should seriously consider using these connectors or having adapters available so you can adapt to these connectors.



Either the 15-ampere or 30-ampere sizes may be used, and both sizes mate with each other. The plastic parts are the same for both sizes. The barrel area (which holds the wire) of the 15-ampere silver-plated contact is smaller than that of the 30-ampere contact, but the contact area is the same. The connectors dovetail together as a compact unit.

Housings should be mated according to the diagram above, viewing from the contact side (opposite the wire side), tongue down, hood up, RED on the LEFT, BLACK on the RIGHT. Use a 3/32-inch-diameter roll pin, 1/4 inch long, or a drop of super-glue, to keep the housings from sliding apart.

Non-corrosive stainless-steel leaf springs maintain constant contact pressure—ideal for frequent connections/disconnections and intermittent overloading. Durable, high impact-resistant, polycarbonate housing with UL94V-2 flammability ratings comes in many colors for circuit trace ability and coding.

Identical connector halves are genderless—making assembly quick and easy and reducing the number of parts stocked. Molded-in dovetails allow for customized harness in a variety of configurations. When the connectors are disconnected, no metal parts are exposed.



The 15-ampere contacts are designed for 16-20 AWG wire and the 30-ampere contacts are designed for 12-16 AWG wire. The contacts can be soldered or crimped to wires. An expensive crimping tool (#1367G1) is available from Anderson. Other, less expensive, crimping tools are available from other suppliers. After a contact has been attached to a wire, it should be installed into the housing so that the housing spring mates with the underside of the contact. To remove a contact from the housing, use Anderson insertion/extraction tool #111038G2. You may also substitute a very small blade (jeweler's screwdriver or X-acto knife) to depress the spring, allowing the contact to be removed.

Here are the Anderson part numbers:

15 A Black Red	Complete Connector #1395G1 #1395	Housing Only #1327G6 #1327	Contact Only #1332 #1332
30 A Black Red	Complete Connector #1330G4 #1330	Housing Only #1327G6 #1327	Contact Only #1331 #1331

LAUGHTER.....



After every flight, UPS pilots fill out a form, called a "gripe sheet," which tells mechanics about problems with the aircraft. The mechanics correct the problems, document their repairs on the form, and then pilots review the gripe sheets before the next flight.

Never let it be said that ground crews lack a sense of humor. Here are some actual maintenance complaints submitted by UPS pilots (marked with a "P") and the solutions recorded (marked with an "S") by maintenance engineers. (By the way, UPS is the only major airline that has never had an accident.)

P: Left inside main tire almost needs replacement.

S: Almost replaced left inside main tire.

P: Test flight OK, except auto-land very rough.

S: Auto-land not installed on this aircraft.

P: Something loose in cockpit

S: Something tightened in cockpit

P: Dead bugs on windshield.

S: Live bugs on back-order.

P: Evidence of leak on right main landing gear.

S: Evidence removed.

P: Friction locks cause throttle levers to stick.

S: That's what friction locks are for.

P: IFF inoperative in OFF mode.

S: IFF always inoperative in OFF mode.

P: Suspected crack in windshield.

S: Suspect you're right.

P: Number 3 engine missing.

S: Engine found on right wing after brief search.

P: Aircraft handles "funny".

S: Aircraft warned to straighten up, fly right, and be serious.

P: Target radar hums.

S: Reprogrammed target radar with lyrics.

P: Mouse in cockpit.

S: Cat installed.

P: Noise coming from under instrument panel. Sounds like a midget pounding on something with a hammer.

S: Took hammer away from midget.

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