



# THE SIGNAL



*Newsletter of the  
Bella Vista Radio Club*

May 2022



Monthly Meetings: 1<sup>st</sup> Thursdays @ 7 p.m.  
Arkansas Law Enforcement Training Academy (ALETA), Springdale

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

## WEEKLY NETS:

- 3.830 kHz Roundtable - Sundays @ 4 pm
- 147.255 BVRC Weekly Net - Wednesdays @ 8 pm
- Wide Area Net - Tuesdays @ 8 pm on the  
NWA Skywarn Link System
  - Bentonville - 146.865, -offset, pl 103.5
  - Fayetteville - 147.315, +offset, pl 97.4
  - Huntsville - 443.625, +offset, pl 97.4
  - Green Forest - 145.310, -offset, pl 103.5

# NEXT BVRC MONTHLY MEETING

THURSDAY, MAY 5, 2022 @ 7PM  
ARKANSAS LAW ENFORCEMENT TRAINING ACADEMY  
3424 S. DOWNUM ROAD  
SPRINGDALE, AR

A very interesting and fun program comes to BVRC for our May program when Gregg Harrison – KF5WAP and James Bennett – KA5DVS take the speaker's spotlight, as they present to us The Art of Ham Radio Kit Building. Both speakers have built many kits (James has designed many of them as well), and will share with us the ins and outs of kits, how to build them correctly, proper soldering techniques, organization, and other topics. They will also have several items with them that they have built for a 'show and tell' segment of their program. This will be an excellent and very informative program for all, especially those in the Club who might want to explore this phase of the amateur radio hobby.

Also, and preceding the program on kit building, we will have with us Steve Gibbs – K5OY from the Noise Blankers Radio Group, who will give us a short informational presentation on the upcoming 2022 Arkansas QSO Party, which will be held on May 21. NBRG is the new sponsor for the ARQP, with last year being their first year to manage the event, and they did a stellar job. Steve will be on hand to field any questions about participating in the ARQP, rules, where to obtain information, etc. Steve was formerly chief meteorologist for the local ABC, NBC, and FOX television stations, and is now a VP with Arvest Bank at the Sugar Creek branch location in Bella Vista.

Don't miss this enjoyable and provocative program! See you then!

# Operating Through Amateur Radio Satellites Highlights BVRČ April 2022 Meeting

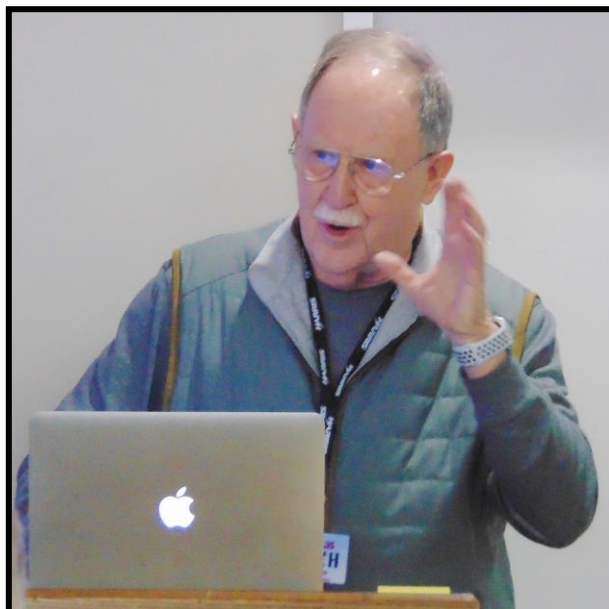
You really missed-out on an excellent and informative program, if you were unable to attend BVRČ's April meeting. Dr. Murray Harris - W5XH gave a stellar presentation on operation through amateur radio satellites, that was thoroughly enjoyed by the 50 attendees present.



Murray was 16 years of age when he was first licensed as a Novice in 1959 with the callsign KN5WLY. After finishing college, medical school, internship, and two years in the U. S. Army (101st Airborne Division and 27th MASH in Viet Nam and AFEES, Amarillo). He upgraded to Extra Class in 1972 while a resident in Diagnostic Radiology. When the FCC implemented the vanity callsign program in 1977 he applied for, and received, W5XH. Although he still ventures into the HF bands with SSB, CW, and digital, his current activity is on the amateur satellite bands.

Murray first covered the history of satellites in general, with Russia's launch of Sputnik on October 4, 1957, to OSCAR-7 (Orbiting Satellite Carrying Amateur Radio) which was launched 48 years ago (and is still functioning!) and which Murray said he works through quite a bit, to today with the launch of China's Tiangong space station in which amateur radio gear is soon to be installed.

He then covered CubeSat satellites. A CubeSat is a satellite that is, of course, a cube that measures only 4X4X4 inches. To date, there have been approximately 1600 CubeSat launches. He also related a very interesting point of the ARKSAT-1 which was built at the University of Arkansas, that has a special feature associated with it – a laser to be used for atmospheric research. ARKSAT-1 is currently awaiting a launch date.



He explained orbit, apogee, perigee, Doppler shift, and other terms related to tracking and operating through satellites. The majority of amateur radio satellites operate in LEO (Low Earth Orbit) and MEO (Middle Earth Orbit). The third orbit class is GEO – Geosynchronous Earth Orbit. There are currently no amateur satellites in the western hemisphere using this type of orbit, although the small country of Qatar has placed a satellite in this orbit configuration in the eastern hemisphere.

Today, most amateur satellites are CubeSats.

A very interesting point Murray made, was that satellite communication occurs on frequencies available to Technician class operators – quite a departure from general operation through local repeaters! He said that it is very possible to obtain a Worked-All-States award through amateur satellites, although obtaining DXCC is more difficult because of our location in the central region of North America and the coverage of the satellites. Most satellite ham operators collect grid squares, logging is usually electronic, but some still use paper, pen, and QSL cards.

Another interesting point, however on the negative side, is there is a 40% failure rate on satellite launches. One of these type failures results from 'still birth' launches, where a satellite is launched and never heard from again. Many times this is due to the antennas not deploying, thus crippling the unit with no power or communication ability.

In closing, Murray explained how to work satellites: You must know which satellites are available and when, by consulting the AMSAT Satellite Status website. When the satellite will pass over your area by using tracking software such as SATPC32, AMSAT Droid, and Heavens Above. Some programs use data tables and some use graphs that are very easy to use.

There are 3 types of satellites: FM, linear, and telemetry.

THANKS MURRAY FOR A SUPER-DUPER PROGRAM!!!!!!!!!!!!



President Tom-W5XNA presents Murray-W5XH with BVRCS Certificate of Appreciation

# BVRC OFFICERS

## President

Tom Northfell - W5XNA  
[w5xna@arri.net](mailto:w5xna@arri.net)

## Vice - President

Don Banta - K5DB  
[arsk5db@gmail.com](mailto:arsk5db@gmail.com)

## Secretary

Dana Hill - W5DGH  
[dana.hill1979@gmail.com](mailto:dana.hill1979@gmail.com)

## Treasurer

Marc Whittlesey - WØKYZ  
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## Technical Officer

Tem Moore - N5KWL  
[temmoore@gmail.com](mailto:temmoore@gmail.com)

## Repeater &

## Club Call Trustee

Glenn Kilpatrick - WB5L  
[wb5l@arri.net](mailto:wb5l@arri.net)

# APPOINTED OFFICERS

## V E Testing Coordinator

Don Cooper - KC7DC  
[don\\_c@hotmail.com](mailto:don_c@hotmail.com)

## Elmer 9-1-1

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

## 2-Meter Net Coordinator

Chris Deibler - KG5SZQ  
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## Webmaster

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## EmComm Chair

Open

## Public Information Officer

Open

## Newsletter Editor

Don Banta - K5DB  
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## FROM THE DESK OF THE PRESIDENT

WELCOME MEMBERS TO THE MAY 2022 ISSUE OF THE SIGNAL – THE MONTHLY NEWSLETTER OF THE BELLA VISTA RADIO CLUB. DON – K5DB IS NOT ONLY THE VICE-PRESIDENT OF BVRC, BUT ALSO THE EDITOR OF THIS EXCELLENT AMATEUR RADIO RESOURCE. IF YOU HAVE A SUGGESTION FOR/OR WOULD LIKE TO SUBMIT AN ARTICLE, IT WOULD BE APPRECIATED. CONTACT DON.

*MEMBERSHIP* – I WANT TO EXPRESS MY THANKS TO ALL OF YOU WHO HAVE RECENTLY JOINED BVRC OR HAVE RENEWED YOUR MEMBERSHIP. AT THE TIME OF THIS WRITING, THE ROSTER LISTS 144 CURRENT MEMBERS. IT IS GRATIFYING TO KNOW THAT OUR CLUB CONTINUES TO GROW, DESPITE THE DIFFICULTIES WE ENCOUNTERED DUE TO THE PANDEMIC. HOWEVER, BVRC *IS NOT ABOUT NUMBERS* – IT IS ABOUT TO WHAT EXTENT WE ARE SERVING AND IMPACTING OUR MEMBERS, THE GREATER AMATEUR RADIO COMMUNITY, AND THE PUBLIC.

CONGRATULATIONS TO OUR LIFE MEMBERS. YOU HAVE PAID YOUR DUES!

*CLUB MEETINGS* – THE APRIL MEETING HAD 50 ATTENDEES. I WANT TO THANK DR. MURRAY HARRIS W5XH FOR HIS EXCELLENT PRESENTATION ON WORKING THE BIRDS – AMATEUR RADIO SATELLITE OPERATING. ALTHOUGH I PRIMARILY OPERATE CONTESTS AND CHASE DX, I NOW HAVE AN ANTENNA AND SOFTWARE TO TRY THIS ASPECT OF OUR HOBBY.

WE HAVE A MEMBER WHO VOLUNTEERED TO VIDEO THE CLUB MEETINGS, BUT COULD NOT GUARANTEE HE COULD BE THERE EVERY TIME. UNFORTUNATELY, HE WAS UNABLE TO BE THERE FOR DR. HARRIS' PRESENTATION.

OUR MAY MEETING PRESENTERS WILL BE JAMES BENNETT KA5DVS (OWNER OF PACIFIC ANTENNA – QRPKITS.COM) AND GREGG HARRISON KF5WAP (TRAINING COORDINATOR, NW ARKANSAS LAW ENFORCEMENT TRAINING ACADEMY). THE TOPIC IS KIT BUILDING. IT IS SURE TO BE VERY INTERESTING AND INFORMATIVE.

WE ALREADY HAVE EXCELLENT PRESENTATIONS SCHEDULED FOR THE REMAINDER OF 2022. IF YOU HAVE A SUGGESTION FOR A PRESENTATION, PLEASE CONTACT ME OR ANOTHER CLUB OFFICER.

*CONGRATULATIONS* – TO ALL OF THOSE WHO HAVE RECENTLY EARNED THEIR TECHNICIAN LICENSE OR UPGRADED TO GENERAL OR EXTRA. THANKS TO DON KC7DC (BVRC VE COORDINATOR) AND THE LOYAL VE TEAM MEMBERS. VFB!

*ARRL ROOKIE ROUNDUP* – THANKS TO ALL OF THE ROOKIES AND COACHES FOR A VERY SUCCESSFUL 6-HOUR RR EVENT. EVERY ROOKIE PARTICIPANT RECEIVED A CERTIFICATE OF PARTICIPATION. MANY THANKS TO DON – K5DB FOR COORDINATING THIS SUCCESSFUL EVENT. IT IS MY HOPE THAT WE CAN DOUBLE OUR PARTICIPATION NEXT YEAR.

*HAMFEST(S)* – THE GREEN COUNTRY HAMFEST (CLAREMORE, OK) WAS VERY WELL ATTENDED BY BVRC MEMBERS.

*CHANGES* – BVRC HAS RECENTLY HAD SOME CHANGES. I HOPE THAT YOU WILL CONSIDER THEM IMPROVEMENTS:

A NEW AND IMPROVED MEETING LOCATION

A SECOND VE LOCATION AND TIME

A CHANGE OF DAY AND TIME FOR THE WIDE-AREA NET (SO FAR, THE NUMBER OF PARTICIPANTS HAVE DOUBLED)

*BVRC PLANNING CALENDAR*

ARKANSAS QSO PARTY (MAY 21)

ARRL FIELD DAY (JUNE 25 - 26)

K5DB CW CLASS (LATE SUMMER)

ACCELERATED TECHNICIAN CLASS AND VE TESTING (THE WEEKEND OF AUGUST 21-22)

BVRC HOLIDAY BANQUET AND AWARDS (DECEMBER ?)

PLEASE CONTACT ME WITH ANY SUGGESTIONS OR CONCERNS AT W5XNA@ARRL.NET AND/OR 479-530-0967.

73 ES GUD DX,  
TOM – W5XNA  
BVRC PRESIDENT



# BVRC VE REPORT

From Don Cooper – KC7DC, BVRC VE Chair  
April 9, 2022



## Congratulations!!!

**Cameron Dunaway – KI5JRB – New Amateur Extra!**  
**Edwin Silva-Roman – WP4MVV – New General!**  
**James Swift – KF0ITY – New Technician!**  
**Aaron Kopf – KI5UTU – New Technician!**  
**Craig Niland – KI5UTV – New Technician!**

*Test sessions are conducted each 2nd Saturday of the month at 2 pm, at  
 Bella Vista Fire Station #1 in Bella Vista,  
 and 10 am at the Shiloh Museum in Springdale*

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

## Cell Tower Meets Tornado

BVRC member Bill Durham – KG5ZCI submitted this photo of a cell tower just north of the Northwest Arkansas Mall, and near the Springdale/Fayetteville city limit line. The tower was destroyed March 30 by the tornado that ripped through southeast Springdale. The tops of the mall buildings are in the background. Bill said it was amazing how small the area of damage was, except for the tower. The tower on the right appears to be untouched, but the main tower wasn't so fortunate. Thanks Bill, for sending us this info.







# New BVRC Members!!!

**Tom Harris – KG5ZTR – Elkins**  
**Patti Snodgrass – KI5HOL – Lincoln**  
**Jack Brooks – KI5UGX - Farmington**  
**Darrel Johnson – KI5NDJ – Huntsville**  
**Dennis Tune – KI5UNH – Fayetteville**  
**James Wood – N5ZMX – Lowell**

## SPECIAL ANNOUNCEMENT

The BVRC ARRL VE testing session at the *Shiloh Museum of Ozark History in Springdale* is changing its test session start time on the 2<sup>nd</sup> Saturday of each month from **2 pm to 10 am.**

The BVRC Bella Vista VE testing session at Bella Vista Fire Station #1 in Bella Vista will remain the same with the monthly test session beginning at 2 pm as usual.



**BVRC Needs You!....**  
**For Field Day 2022!**



We need volunteers to help with BVRCs biggest club event of the year. Some of the areas where help is needed are: setup, tear down, erect antennas, generators and fuel, snacks, drinks, ice chests with ice, etc.

Please contact Tom-W5XNA to assist in any of these and other areas: [w5xna@arrrl.net](mailto:w5xna@arrrl.net)

# BVRC Welcomes New Club Secretary! Dana Hill – W5DGH



**Dana – W5DGH with husband Robert – K5N ZV attending the recent Green Country Hamfest in Claremore, OK**

Due to a change in his work schedule, Wayne Patton – K5UNX has stepped down from his position as BVRC Secretary. Wayne hopes that his schedule will soon be less hectic, allowing him to be able to return to Club activities. ***Thanks for all you did, Wayne!!!***

In the meantime, Dana Hill – W5DGH has agreed to fill the club secretary position, of which we are *infinitely* grateful.

We also asked Dana to give our Signal readers a little ham radio background and biography, and here's what she told us:

“Robert and I have been married for 20 years and counting! We actually went to high school together and years later found each other and the rest is history. Robert became interested in ham radio a little over a year ago and

passed his Technician license, then soon after passed his General. When I saw all of the fun Robert was having in talking to people all over the USA and around the world, I thought I might also enjoy the hobby. Last fall, I passed my Technician's exam. Afterward, I quickly discovered that the operating privileges I had with that license were not enough to be able operate on the OMISS nets and talk on more bands as Robert was doing. So, this past February I studied ‘like a crazy woman!’, went back to another testing session, and passed both my General and Amateur Extra exams in one sitting. Robert, not wanting to be outdone by his XYL, passed his Extra exam on the same day. So, we now have another interesting hobby to pursue together. We go camping, fishing, hiking, and sometimes play golf together. I play golf with 3 different ladies' golf groups as time and work permits. I work from home, and teach Masters of Public Health in an online environment. I also like to paint, and I donate some of my work to be auctioned for charitable organizations and occasionally sell a piece or two. When Robert got his license, he heard about and joined BVRC. I also joined after passing my first test.”

Dana and Robert say they both are enjoying getting to know new people, enjoying the hobby, and hope that they will be able to use their knowledge and skills in a way that helps others.

***WELCOME ABOARD AS BVRC SECRETARY, DANA, AND THANK YOU SO VERY MUCH!!!***

# TECH TIPS

*By Steve Werner – K5SAW*

## MODULAR CONNECTORS

Modular connectors are used extensively in modern ham radio equipment for connecting microphones to radios and control heads to radios. The modular connectors are available in different sizes and with a different number of contacts as shown in figure 1.

The RJ22 (four position/four contacts) is the smallest connector, and it is commonly used to connect the coiled spring cord between a handset and the telephone. See figure 2 if you have forgotten or have not seen a land line

The RJ22 is not commonly found in ham radio gear, but the Kenwood TM V71 does use it on one end of the cable connecting the radio to the control head.

The RJ11 (six position / four contacts) is the next size larger connector, and it is commonly used to connect a land line telephone or fax machine to the telco wall socket. Again, refer to figure 2 if you forgot about land line telephones. The RJ11 could support two telephone lines with the four conductors, but many telephone cables were sold that only used the center two conductors for a single telephone line. Not many ham radios use the RJ11, but there are many ham radios that use the RJ12 connector

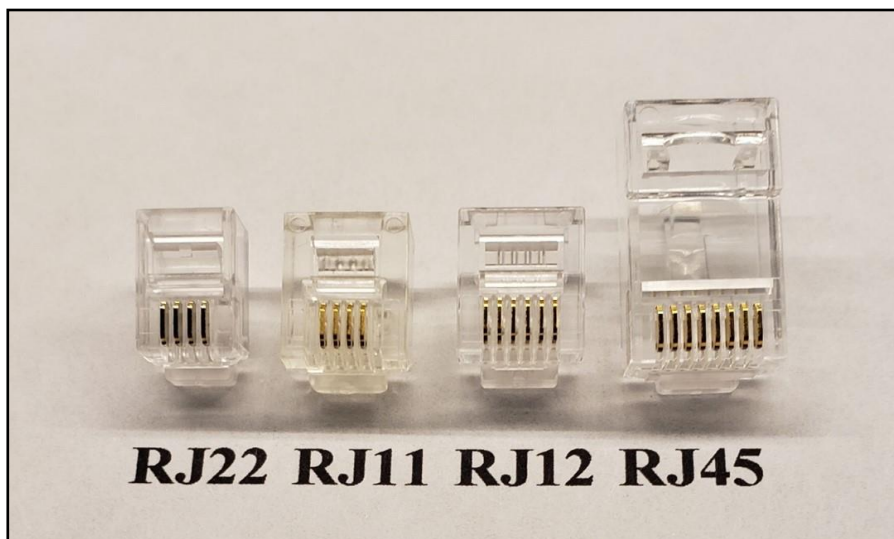


Figure 1. RJ modular connectors used in telco, networking, and ham radio equipment.



Figure 2. Land line telephone using RJ22 connectors on the coil spring handset cord and RJ11 connectors for connection to the telco wall socket.



Figure 3. The hardwired ethernet connection using a RJ45 modular connector.

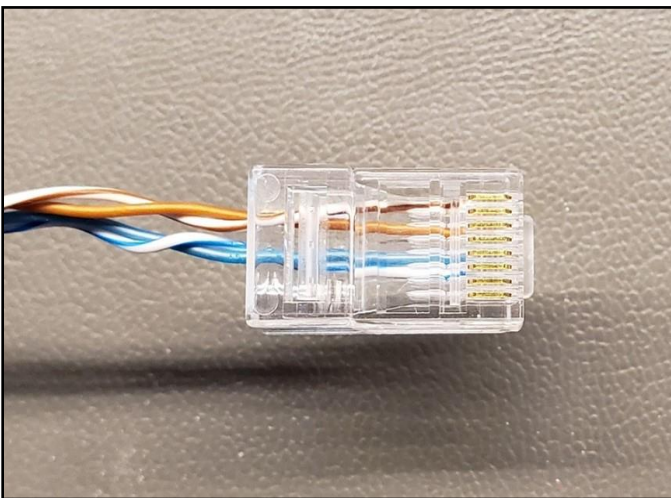


Figure 4. The common RJ45 connector is blind-ended, and it is difficult to get the wires in the correct slots and get the wire all fully seated before crimping.

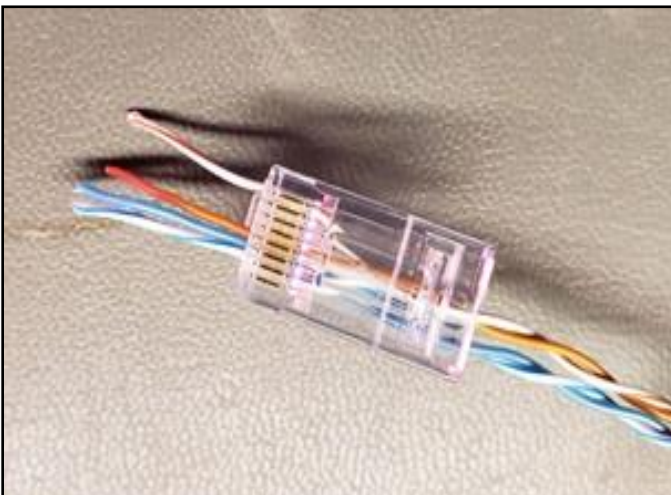


Figure 5. The open ended RJ45 connector allows the wires to be threaded through the connector, and the excess wire is trimmed flush before crimping the connector. The connector makes it much easier to get the wires in the proper position and guarantees the wires will be fully seated before crimping.

to connect the control head to the radio. The RJ12 (six position /six contacts) is the same size as the RJ11 connector but has two additional contacts. The RJ12 and the RJ11 will both fit into the same modular socket so be careful to get the correct number of wire connections for your needs.

The RJ45 (eight position / eight contacts) is normally used to connect ethernet cables to networked equipment, and it is the most common RJ modular connector used on ham radio equipment. With the advent of WIFI, you might have forgotten about hard-wired ethernet connections as shown in figure 3. The microphone connection on most mobile radios as well as some base station radios use the RJ45 connector, and the connector is often the point of failure due to fatigue and over stress on the microphone cable.

Installing a new RJ45 connector on the microphone cable can be a challenge to get the wires in the correct slot, and the shield on the microphone cable is particularly difficult to get a good connection with the correct contact. Many folks are not aware the RJ-45 connectors are available in alternate configurations that greatly simplify the proper installation for microphones and control cables.

The common RJ45 connector is a blind-ended connector which means the wires must all be positioned correctly and fully seated before crimping (see figure 4). There is also an open-ended or feed through RJ45 connector that allow you to thread the wires through the connector, and the wires can then be trimmed flush before crimping (see figure 5). The open-ended RJ45 allows you to work one wire at a time through the connector and assure the wires are fully seated in the connector. In my opinion, the best RJ45 connector for microphone cables and tricky control cables is the insert or load bar connector (see figure 6). This connector makes it easy to correctly arrange all the wires in the insert before completing the connector installation. The excess wire in the insert is trimmed flush, and the insert can then be loaded into the RJ-45 for crimping. It might be easier to get the shield connected by twisting the shield into a wire-sized shape and then lightly tin the wire before putting it in the insert. Alternatively, a small jumper can be soldered to the shield, and the jumper can then be easily placed in the insert.

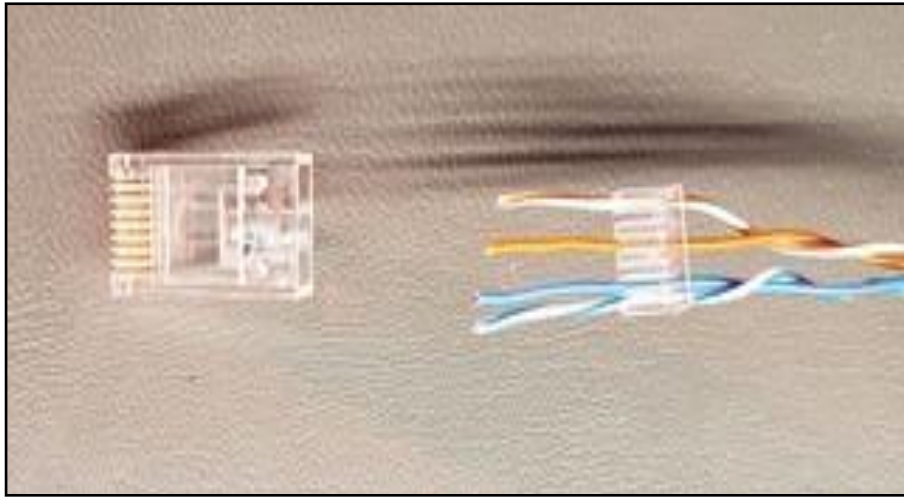


Figure 6. The insert or load bar RJ45 has a small plastic insert to help properly position the wires, and the excess wire is trimmed before inserting the guide into the RJ45 for crimping. This connector is by far the easiest RJ45 for challenging terminations such as microphone cables or control cables.

Sometimes you can find the insert or load bar connectors at big box stores like Lowes and Home Depot, but usually they only stock the blind ended RJ45 connectors. There are many online sources for the insert type RJ45 connectors such as Amazon or Google for RJ45 / insert / load bar.

A good quality crimping tool is very useful to assure proper crimping of the RJ connectors. There are many RJ crimpers available, but I personally like the ratcheting type crimper to get a consistent crimp on the connector (see figure 7).



Figure 7. A ratcheting type of crimper provides a consistent quality crimp on RJ modular connectors.

*(Editor's note: We hope you're enjoying these great Tech Tips articles courtesy Steve-K5SAW. They are exceptionally helpful, informative, and may just come to your aid sometime in a ham shack application. Watch for more great technical articles in future Signal issues from Steve!)*

# Alpena High School Radio Club Visits UofA Club Station W5YM

Your Signal editor is also one of the advisors for the Alpena High School Radio Club. I have been involved with the club since its inception around 7 years ago. The club was initiated by my cousins from Harrison, AR (my old stomping grounds) John Jones – W5OX and his daughter Shelly Stone – KE5DX. With current members and alumni, the club has around 20 members – 4 Extras, 5 Generals, and the rest Technicians – with newcomers constantly passing their amateur radio exams and joining the club. Several license upgrades occur each year as well. Shortly after its inception, Alan Nix, the social studies teacher at the high school, became the club's in-house sponsor. Alan is an Amateur Extra license holder with the callsign KA5NIX. Five years ago, the Club acquired the vanity callsign W5AHS.

On Tuesday, April 19, seven of the new club members along with John, Shelly, and Alan paid a visit to W5YM's headquarters at the University of Arkansas. They were hosted by Dan Puckett – K5FXB, who spoke with them about modern ham radio and demonstrated the use of the equipment at the station. (Although I was not able to attend, Shelly advises that the club had a fantastic time.)



**W5AHS club members on the back row pause for a photo with club sponsor Alan Nix – KA5NIX (left) and Dan Puckett – K5FXB (right) of the U of A**  
(Photo courtesy KE5DX)

# BVRC ROOKIE ROUNDUP HUGE SUCCESS!

Although 3 of the 15 rookie operators that signed-up for this year's Rookie Roundup were unable to attend, a good showing of 12 rookie operators participated in this year's SSB event on April 10. The number of contacts made at each of our five RR Coach locations varied from a few to many, and all participants commented that they had an excellent time. (We hope the eligible ones will return next year for more HF experience and fun!) Unlike operating simplex or duplex on the VHF/UHF bands, the Rookie Roundup is designed to help newcomer hams to learn and enjoy the quite different world of HF operation. This was accomplished by the help and guidance of our coaches who also voiced that they had a really great time in having new operators as their guests.



Dave Mersky – K5TRT  
and Dennis Tune – KI5UNH  
at the shack of  
RR Coach Mark Whatley – K5XH



Stacey McCollough – KI5LXC and  
Bruce Graham – KG5OVZ  
operating at RR Coach Tom  
Northfell – W5XNA's shack  
(Neil Poff – K5NKP was present  
at the start of the event but had  
to leave early)



**Sharron Edmondson – KC5SKY  
and Dale Locander – KI5TSF  
operating the station of RR  
Coach Don Cooper – KC7DC**



**Jan Hagan – WB5JAN makes  
another SSB contact during the  
2022 Rookie Roundup with  
Andy French – KI5TGZ logging  
at the shack of RR Coach  
Glenn Kilpatrick – WB5L**





Our most experienced rookie team for this year was (L to R) Vinson Carter – WV5C, Clara Orvin – KI5HTX, and Jere Orvin – W5JRO. This trio enjoyed their 3<sup>rd</sup> and final year as rookies, participating at the shack of coach Don Banta – K5DB. With three years of Rookie Roundup, Arkansas QSO Party, Special Event Station, and other contesting-type experiences under their belts, their operating techniques have vastly improved. It definitely showed in this year's Rookie Roundup, as they totaled their best score ever. They accumulated 308 QSOs, worked 45 states, 3 Canadian provinces, and several DX stations during the 6-hour contest period.

**They want to pass this along to all the other BVRC Rookie Roundup participants that participated this year and any other newcomers who might want to operate in the SSB Rookie Roundup next year: *"We want you to know that we have thoroughly enjoyed the past three years in the SSB Rookie Roundup event, and we want to encourage you to stay the course in HF operation. We spittered and sputtered at first just like everyone does, but as we gained operating experience it became very exciting and a LOT of fun. The same will happen to you! Now that we've "graduated" from the Rookie ranks, we want to inspire you to do the same thing we have been able to do – participate in as many events as you can, and become good and efficient operators. If we can do it, YOU can do it!"***

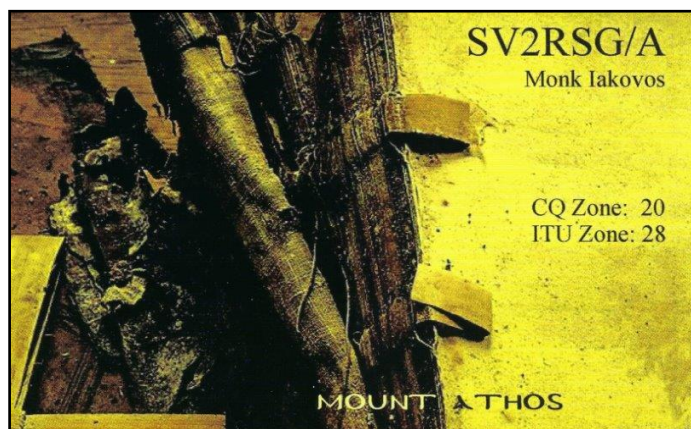
# Curious QSLs

Curious QSLs is a monthly feature column of The Signal. Each month, a BVRC member shares a couple of their QSL cards that are memorable or denote a special memory to them.

If you would like to share a couple of your QSLs and accompanying stories with the rest of the BVRC members, send a .jpg file of your cards along with their stories, to Don-K5DB at: [arsk5db@gmail.com](mailto:arsk5db@gmail.com)

**For this month, we present two QSLs supplied by Jay – W5JAY from a VERY difficult country to work and confirm.**

Mount Athos - Greece		Monk Apollo					
<b>SV2ASP/A</b>		Dochiariou					
		monastery					
ITU: 28 WAZ: 20		GR-63087					
Greece - Europe		Mount Athos					
To Radio <u>W5JAY</u>		QSL via					
Day	Month	Year	UTC	MHZ	2 way	RST	Remarks
<u>27</u>	<u>5</u>	<u>12</u>	<u>1908</u>	<u>18</u>	<u>QW</u>	<u>599</u>	<u>CS</u>
TKS / PSE QSL		73 de					

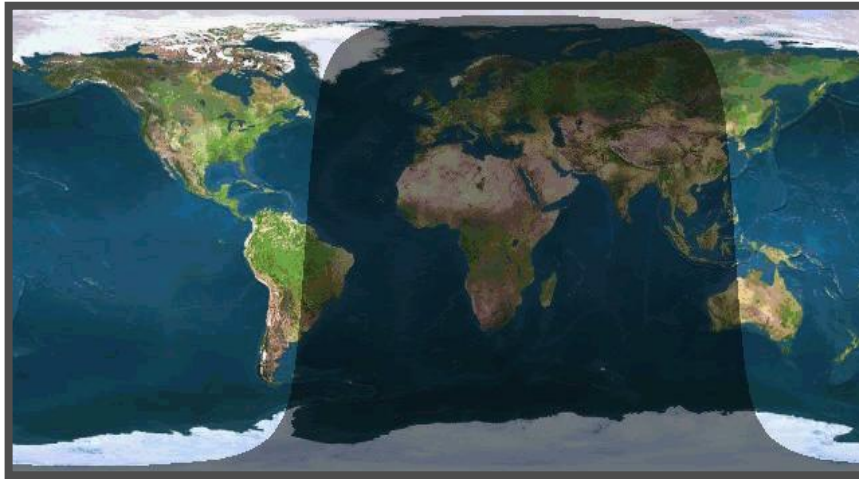


Mount Athos, Greece (also called 'Agion Oros' in Greek, meaning Holy Mountain), is a mountain peninsula in the northeast region of Greece. It is one of the most difficult countries to work on amateur radio, and one of the most sought after.

Although Mount Athos is legally part of the European Union like the rest of Greece, the Monastic State institutions have a special jurisdiction which was reaffirmed during the admission of Greece to the European Community (precursor to the EU). This empowers the Monastic State's authorities to regulate the free movement of people and goods in its territory; in particular, only males are allowed to enter. The permanent inhabitants of Mount Athos are monks who occupy the various monasteries on the peninsula. Entrance to Mount Athos is very restricted, with any visitors required to obtain a special entrance permit. The only ham on Mount Athos for decades was Monk Apollo, who entertained hundreds of DX pileups whenever he was on the air. Monk Apollo became a Silent Key in 2019, but his new successor, Monk Iakovos, is now on the air.

Some hams never even get the opportunity to work Mount Athos in their lifetime, due to personal schedules and/or propagation conditions, but many other hams have accomplished that feat. Many of our devoted Arkansas DXers have worked and confirmed Mount Athos, and Jay-W5JAY is one of them. Not only has Jay worked Monk Apollo in 2012 on CW received his QSL from that year, but he also recently received a QSL from the new Monk Iakovos in the mail last March from a QSO with him this year! Jay worked Monk Iakovos on the hottest mode going – FT8. Jay, thanks for supplying us with these two great QSLs and congrats! It encourages the rest of us to keep up the quest for Mount Athos!

# WHAT IS 'GREYLINING' ?



For those of you who are new to upcoming solar cycle 25, an interesting form of working DX is called "working the grey line." The "grey line" is a band around the Earth that separates daylight from darkness. This simply means that more times than not, you can get some very good results in working the high bands (10-, 12-, 15-, 17-, or 20-meters) during twilight hours.

Here's what happens:

During the day, solar radiation collides with the molecules in our ionosphere, ripping off electrons. These electrons are called "free electrons" because they are not attached to an atom or molecule. All these free electrons cause the density of the ionosphere to increase. The denser the ionosphere, the higher the frequency that is reflected back to earth. Our electron density is what determines the maximum usable frequency (MUF – remember that one from your Technician exam?), and the action of solar radiation separating electrons from the molecules is called *ionization*.

During the day, solar radiation causes ionization to stratify, that is, to form distinct layers. The layer closest to the earth is called the D-Layer. It does not reflect signals generally, but instead absorbs some of the energy. Hence, the D-Layer is often called the "absorption layer." Higher up in our ionosphere, we find the E- and F-Layers. These layers *do* reflect the signals back to earth if they are below the MUF, and is exactly what causes "skip propagation." So, during the day, the sun is ionizing the D, E and F layers (there are actually two F layers, called F1 and F2). Your 20m signal must travel through the D-Layer, getting attenuated (your signal strength is reduced), then bounces back from the E or F layer to some exotic DX spot, passing through the D-Layer for more absorption again. But since solar radiation must travel the farthest to get to the D-Layer, absorption of the sun's radiation is usually fairly minimal. So, during the middle of the day, we have moderate absorption, and fair to good skip propagation.

AT SUNDOWN ... solar radiation no longer strikes our ionosphere right above our heads, and ionization stops. This means there is no solar radiation to form free electrons. In fact, without this solar radiation, these free electrons tend to get attracted back to recombine with their host molecules. This is called "recombination" (gee, how original!). Recombination, when it starts to get dark, causes the electron density to go down, forcing the MUF to go down as well, which is why usually several hours after total darkness, 10m (and later 15 and 20m) are usually completely dead. The MUF is far below 28, 21, and 14 MHz at this time.

The D-Layer is the *first* layer where ionization stops since the sunlight no longer reaches near the surface of the earth but is still illuminating (and ionizing) the ionosphere far above our heads.

**BUT!!!! DURING TWILIGHT ... OR WHEN YOU'RE IN THE "GREY LINE", YOU HAVE A WHOLE DIFFERENT BALLGAME** ... the D-Layer suddenly causes little absorption to signals passing through it, while the E and F layers are still being ionized by sunlight. In other words, the D-layer, which absorbs HF signals, disappears rapidly on the sunset side of the greyline, and it has not yet built upon the sunrise side. *This makes for about 45-60 minutes of interesting operating!* There is almost no signal attenuation, but the MUF is still very high, so long-distance skip is still possible. However, when the sun quits illuminating the E and F layers, the MUF can drop dramatically ... sometimes with only a few minutes of warning, sometimes only seconds. So, when you establish a contact, make sure you and the other station exchange signal reports fast!

One other advantage of grey line DXing is that your signals tend to reflect off the edge of the ionized portion of the upper layers. This means propagation will often be in a southerly direction, bouncing along the shadow, or terminator, between sunlight and darkness. This is good for working into South America and the South Pacific. Your signals can also bounce northward along the terminator, bending around the pole, and down the *morning terminator* across eastern Europe, the Middle East, and into Africa (depending on the time of year). So grey line DX also affords an opportunity to work portions of the world not usually accessible during the day, where propagation tends to be in more east-west circuits.

The same principles apply at sunrise, only reversed. The upper ionosphere begins to become ionized, while the D-Layer is still dark and offers low absorption. So now, the grey line affects the low bands instead of the higher bands. Morning gray line can definitely be eventful on 80 and 40 meters, due to the low absorption before the sun starts heating the D-Layer.

We've been talking about you, but now let's talk about the other guy: Don't forget that greylining is occurring and changing worldwide constantly. Even though its dark (or daylight) where you are at a given time, a station in the middle-east may be greylining, thus enabling *their signal* to travel farther than during normal daylight hours. To know what portion of the earth is in greyline status, a good tool you can use is the greyline map at:

<https://dx.qsl.net/propagation/greyline.html> . Another greyline map app that you can download to use immediately off your own PC without having to constantly go to the internet is: [https://w3wvq.com/mgxroot/page\\_10735.html](https://w3wvq.com/mgxroot/page_10735.html) .

Amateur operators and shortwave listeners have used this technique for decades, which increases your ability of long distance communications to various areas of the world by monitoring the grey line as it moves around the globe.

**So, if you want a better shot at working stations a farther than usual distance from your QTH, remember each day when your area "greylines" !**



**CQ Arkansas QSO Party  
Huh-huh-huh  
CQ Arkansas QSO Party.....**

# FINAL REMINDER: Arkansas QSO Party May 21 !!!



The singular event that showcases our great State of Arkansas in the amateur radio world each year is on the horizon.

The 2022 Arkansas QSO Party (ARQP) will take place on Saturday, May 21 from 9am-9pm Central time (this is 1400Z, May 21 – 0200Z, May 22).

Amateur operators from all over the U.S., Canada, and the world will be tuning up and down the HF bands listening for, and trying to contact, any station in Arkansas that they hear.

They will be hoping to work an Arkansas station, for example, on a particular band or mode for their Worked-All-States or 5-Band-Worked-All-States award(s). They might be badly needing a particular Arkansas county. Or they may be operating in the ARQP just for the fun of it.

**We hope that anyone reading this article that operates HF modes SSB, PSK (no FT8), and/or CW, from ANY county in Arkansas will join-in on the fun and participate in this annual event.**

Yes – technically – the Arkansas QSO Party is a contest. And whenever the word “contest” is mentioned, it turns many hams off. Usually they are more interested in DXing, traffic handling, rag chewing, etc.

However, the Arkansas QSO Party, like most of the other state QSO parties, is a *very informal* atmosphere when considering that even though it is a contest of sorts, you can make it whatever you want. You can exert an extra amount of sweat and effort in working other stations as fast as you can, or you can take the casual approach and operate at your own pace and leisure. Either way, you can meet a lot of great folks the world over and have fun doing it. Many amateurs do not participate in contests, but they do participate in their state QSO parties. Perhaps you might consider doing the same?

To be honest and frank, Arkansas is generally *not* a ham radio contesting state. Most of the hams in our state are not that interested in contests – which is fine. As with

any other hobby, individuality always plays a part in the particular aspects of the hobby that one enjoys and devotes their time to. Don't misunderstand, Arkansas is home to many contest enthusiasts...and good ones. But the fact that Arkansas isn't as avid about contesting as some other states, causes Arkansas to be a RARE find on the ham bands. As you operate in the ARQP, you could very well here someone say to you (possibly several times), “You're my first Arkansas! Could I swap QSL cards with you, please?” “Thanks for Arkansas!” “Could you upload this QSO to LotW?”

In 2000, after a 25-year absence from the air, the ARQP was resurrected and for the past 22 years it has seen a steady increase in participation and excitement from our Arkansas amateurs, as well as excellent mobile, portable, and rover station activity.

This year the bonus station for the ARQP will be WR5P, the club call of the Noise Blankers Radio Group, who sponsor the event. There will be mobile stations that will be traveling to many counties, along with portable and rover stations, **but it is the fixed home stations that are critical to the success of the Arkansas QSO party.** And, it doesn't matter about the number of stations operating from any given county – the more the merrier!

When Saturday, May 21 arrives, many hams the world over will be tuning the SSB, PSK, and CW bands for Arkansas stations. *We need our Arkansas hams to be on the air and CQ-ing to give those operators outside of our state someone to contact.*

If you are interested in having some fun and participating in this year's Arkansas QSO Party, all the information you need for viewing, downloading, and/or printing – Operating Tips, Rules, and many other aids – are available on the ARQP website: [www.arkqp.com](http://www.arkqp.com) .

Hope to C U on the bands!

**IF YOU'VE NEVER OPERATED IN THIS EVENT, OR PLAN TO OPERATE AGAIN, JOIN US! GIVE IT A TRY!**

# Springdale Tornado Strikes

## BVRC Member's Home, Barely Misses Another

On Wednesday night, March 30, a tornado touched-down in southeast Springdale causing havoc and damage. Although the track of the storm was relatively short, several businesses, one elementary school, and many residential homes were either seriously damaged or destroyed.

One of those residential homes belonged to BVRC member San Hutson-K5YY. He and his XYL Melinda incurred severe internal damage in several rooms as well as extensive roof damage. Miraculously, San's radio room didn't suffer hardly any damage at all, along with his tower and antennas, although they will have to be reworked and readjusted. The bottom line, and of course MOST IMPORTANT factor, is that they both came out of the situation unscathed, thank God!

Don Banta – K5DB dodged the tornado bullet, as the storm missed his house by only two blocks. Tornadoes cause very weird effects to the landscape sometimes as in this case, where nothing serious at all happened and appeared as though a storm never even occurred, but just two streets down from him a giant oak tree at the corner of Turner & Oaklawn streets was uprooted. The only notable thing in Don's neighborhood was an approximately 6' triangle piece of plywood that was hurled into his next door neighbor's yard with one of the corner's sticking in the ground. Had it gone another 10 feet, his neighbor would have lost his front windows.

Our thoughts and prayers are with San and Melinda as they proceed through the restoration and repair process. God speed!



K5YY residence showing window and roof destruction



One of several damaged rooms at K5YY



Damage to other homes  
in the K5YY neighborhood

*Many of our newcomers to the Club and the hobby have recently upgraded to General or Amateur Extra class, and have become active in HF operation. One dimension of operating HF is not only contacting other stations stateside or in North America, but worldwide as well. When one becomes involved in working US or DX stations, understanding the structure of callsigns can make HF operation much less confusing. For that reason, please enjoy this article on callsigns.*

## CALLSIGNOLOGY

# THE SCIENCE OF CALLSIGNS

Amateur radio call signs are in the international series, and are issued by a nation's telecommunications agency in conjunction with the IARU (International Amateur Radio Union). They normally consist of a PREFIX which could be one, two or three letters, a NUMBER which usually denotes a geographical area, and a SUFFIX which consists of 1, 2, or 3 letters.

In the United States, all callsigns begin with A, K, N, or W. The term "2x3 formatted callsign" means the callsign has a 2-letter prefix, a number, and a 3-letter suffix. It usually denotes the callsign that the licensee was issued when they acquired their first license. Example: KA5ABC, WD4XYZ. The same is true with older 1x3 callsigns, Example: WØABC.

There are also callsigns that are specially granted to holders of certain license classes, if the callsign is available and they choose to apply for one of those callsigns from the FCC to replace their current one when they upgrade their license (or, they can opt to retain their original callsign if they so choose). An example of these would be Advanced Class license holders (the Advanced class exam has not been administered and the license not issued since its deletion in 2000, but these license holders of course retain their full operating privileges) who have 2x2 formatted callsigns. Examples: KD2AB, KX9ZZ.

Another example would be the specially formatted callsigns issued only to Amateur Extra Class license holders, which would be either a 1x2, 2x1, or Alpha-2x2 callsign. Examples: W1AW, N7ZZ, AE6B, NO7X, AG5YH, AC1BO, etc.

With the advent of the Vanity callsign program, operators can now at any time apply for a callsign of their choosing to replace their current callsign, provided the desired callsign is available and it corresponds with their current class of license. Both U.S. and foreign callsigns, no matter what the format, can be followed by a further suffix after the normal callsign to indicate the station is operating under special conditions: /P for portable, /M for mobile, /MM for maritime mobile, or /AM for aeronautical mobile.

*This formatting changes outside the U.S. - - - - -* For example in Australia and its other sovereignties, call signs are structured with a 2-letter prefix, a number (which identifies the geographical area), and a 2 or 3 letter suffix. The number following the prefix is normally a single number (0 to 9). Examples: VK4ABC, VI7XX. Also, any Australian callsign beginning with 'VK9' denotes that the station is NOT in mainland Australia; it is located on one of the islands that Australia has sovereignty over. Examples would be **VK9NL**-Norfolk Island, **VK9ML**-Mellish Reef, **VK9LH**-Lord Howe Island, etc.

Some countries' prefixes, such as Namibia, consist of a letter followed by a number. Hence, in the hypothetical Namibia call sign, V51LA – the prefix is V5, the call district number is 1, and the suffix is LA. Others may start with a reverse-type format – a number followed by a letter. For example, Jamaican call signs begin with 6Y, such as 6Y5B.

When operating with reciprocal agreements under the jurisdiction of a foreign government, an identifying station prepends the call sign with the country prefix and number of the district/territory from which the operation is occurring. For example, W4/G3ABC would denote a licensed amateur from Great Britain who is operating in the fourth call district of the United States. HC8/W8ABC would denote a licensed amateur from the United States who is operating on the Galapagos Islands (HC8), etc.

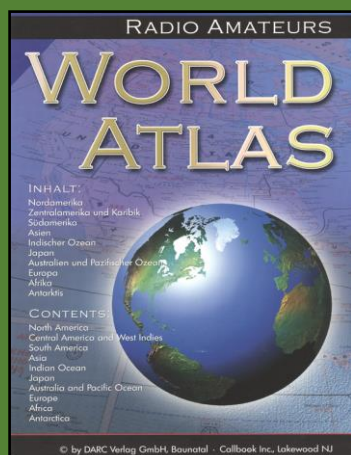
Occasionally, special call signs are issued in the amateur radio service for temporary use to commemorate special events. Examples include VO1S (VO1 as a Dominion of Newfoundland call sign prefix, S to commemorate Marconi's first trans-Atlantic message, a single-character Morse code "S" sent from Cornwall, England to Signal Hill, St. John's in 1901) and GB90MGY (GB as a Great Britain call sign prefix, 90 and MGY to commemorate the 90th anniversary of historic 1912 radio distress calls from MGY, the Marconi station aboard the famed White Star luxury liner RMS Titanic).

In the United States, special event stations occur quite often during all times of the year and commemorate, celebrate or denote events, places of interest, historical commemorations, etc., on a local, regional or national level. Special event station callsigns are in the 1x1 format. Examples: K5A, W9R, N7S, etc.

A website showing all international callsign prefixes and other valuable information on this topic can be found at: <http://www.arrl.org/international-call-sign-series>

Of course, if you're really into working HF whether stateside or foreign, the best way is to use the above website in conjunction with LEARNING the callsigns yourself when you hear them on the air. An excellent tool to have in your shack in doing this, is a copy of the *RADIO AMATEUR'S WORLD ATLAS* at your fingertips: <https://www.universal-radio.com/catalog/books/6082.html> (Don't use your computer and let it do the work for you on Google Maps - - - use your atlas! Look up the country in the front index, then go to the page it appears on and FIND it on your map. Not only will you learn callsign formats from all over the world, you'll become an amateur geographer and know where they are!) Or, you can purchase an amateur radio map of the world for your shack wall, available from ARRL and other various vendors on the web. If you're going to keep records, a handy aid you can also use is the ARRL DXCC list:

<https://home.arrl.org/action/Store/Product-Details/productId/134334>





# BASEBALL AND HAM RADIO???!!!

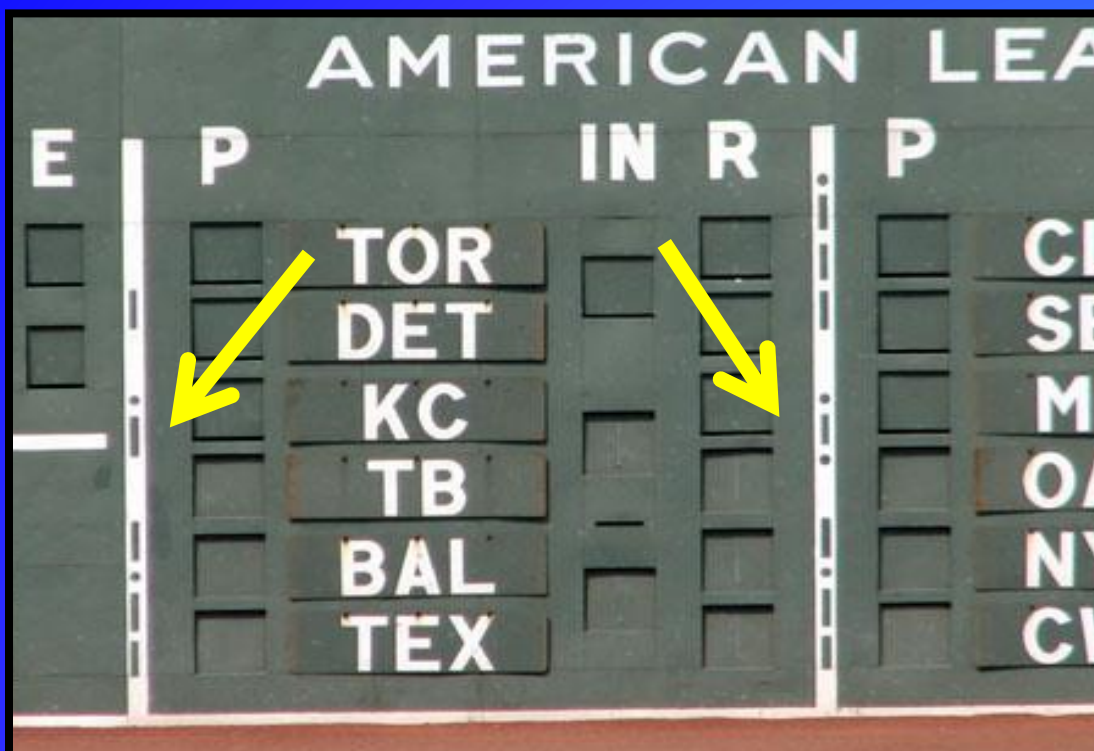
Ladies and Gentlemen, please allow THE SIGNAL to take you to the confines of Fenway Park in Boston, MA, home of the Boston Red Sox. We draw your attention to the famous “Green Monster” left field wall and Fenway Park scoreboard.



Most sports aficionados are very familiar with “The Green Monster”, one of the famous landmarks in sports. But - take a closer look at the scoreboard...



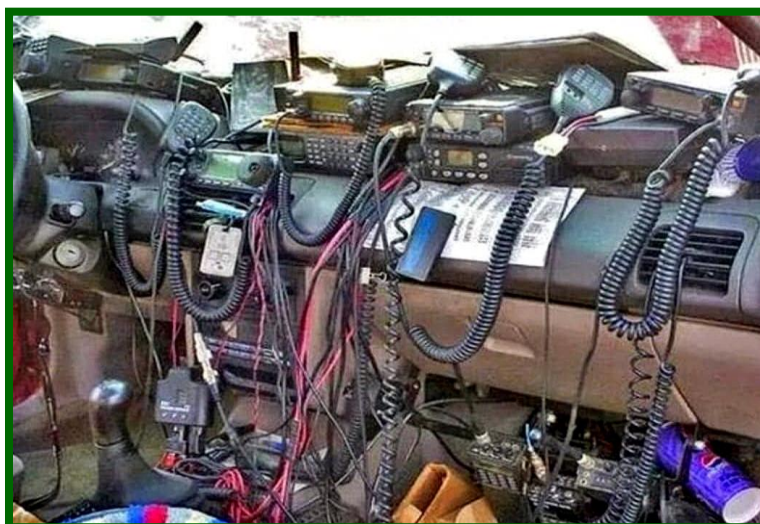
Notice the 2 white vertical lines – HOLY SMOKE, the scoreboard has *Morse code* on it !!!!



Reading from the top down, the left line reads “TAY” which stands for Thomas Austin Yawkey and the right line reads “JRY” which stands for Jean Remington Yawkey, former Red Sox team owners. How about that !

## RADIO RUN AMOCK

BVRC member Jan Hagan – WB5JAN sent us this pic, stating “I think I am ready for my Parks On The Air mobile activation”. LOL! Thanks, Jan!



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