

**NEWSLETTER OF THE  
BELLA VISTA AREA RADIO CLUB**

*Arkansas' Largest Amateur  
Radio Club*



**THE  
SIGNAL**



**April 2023**

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

*(HAM 101 Q&A Session for Newcomers @ 6pm preceding meeting)*

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

**WEEKLY NETS:**

**BVRC Legacy Net**

**Wednesdays @ 7 pm on the  
BVRC Dual Linked Repeaters**

N5BVA/Bella Vista: 147.255, +offset, pl 162.2  
N5BVA/Springdale: 444.100, +5 MHz, pl 162.2

**BVRC 3830 Roundtable**

**Sunday Afternoons  
4 pm during CST  
4:30 pm during CDT  
3.830 MHz**

**BVRC HAM 101 Net**

**Tuesdays @ 8 pm on the  
WX5NAS 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, APRIL 6, 2023 @ 7PM  
ARKANSAS LAW ENFORCEMENT TRAINING ACADEMY  
3424 S. DOWNUM ROAD  
SPRINGDALE, AR

## April Meeting Info

For our April meeting, BVRC welcomes back Bill Priakos – W5SJ from Fort Smith. Bill is one of several renowned DXers from our area and has participated in many DXpeditions worldwide. Bill blessed us with an excellent program a few years ago .

Bill's program will be on his participation in a DX group competition from Cayman Brac in the Grand Cayman Islands.

In 2020, Bill and world renowned DXpeditioner Bob Allphin – K4UEE were invited by BVRC member Stan Stockton – K5GO (who also now has a great station at Cayman Brac) to participate as a threesome for the 2020 ARRL International DX CW Contest. Bill says Stan had terrific antennas literally at water's edge, all personally designed by Stan, who also has the Cayman Islands callsign. Stan had also obtained the Cayman Brac Radio Club call ZF5T for use in contests. In spite of a few glitches, including a significant power outage, with Stan's leadership, they scored 4,264,656 points which was good enough for FIRST PLACE worldwide in the Multi-op/Single Transmitter, Low Power category.

Then, this past year in 2022, Bill and Bob were invited back to participate with Stan in the 2022 ARRL International DX CW contest. Once again they participated in the same operation category, but this time they scored a whopping 5,898,465 points which was a new world record!

Bill will be discussing the technical as well as the operational side of the event, and will have many great pictures to share with the Club. He will also be discussing DXing in general and will have many tips to becoming a successful DXer.

Don't miss this super interesting program as we welcome Bill to the BVRC podium.





# THUNDERSTORMS COMPLEMENT BVRC MARCH PROGRAM ON NWS AND SEVERE WEATHER

It was ironic that mild thunderstorms and heavy rain coincided with BVRC's March meeting program on the National Weather Service and a tutorial on severe weather. The soggy evening, however, did not deter information hungry BVRC members from attending! Another [almost] packed house resulted in a great HAM 101 program preceding the meeting by Jay Bromley – W5JAY, along with great door prizes and ham radio fellowship.

For our March program, BVRC was blessed with a special guest speaker on the subject of severe weather, Ed Calianese – W5SVR, from the National Weather Service forecast office in Tulsa. Ed has been with the NWS for over 30 years, which was evidenced by his outstanding oratory to the club on this very important topic.



Ed began the program describing the NWS office itself: The NWS/Tulsa facility serves 32 counties in northeast Oklahoma, northwest Arkansas, and southwest Missouri. The office is staffed with 27 employees, 18 of which are meteorologists. The office tracks severe weather year 'round whether it be a thunderstorm, tornadic thunderstorm, or winter ice or snowstorm. It always supplies the weather potential for the next 7 days, and passes this information to the public via NOAA weather radio stations and via the NWS/Tulsa website.



Ed then described to protocol for the NWS warning system:

- Severe weather detection: radar, storm spotter, and observational data (used in warning decision making process)
- Warning issuance
- Warning dissemination
- Receipt of warning
- Appropriate response to warning

He then covered some of the parameters that are reported to the NWS from storm spotters such as organized/sustained rotation, hail, damaging winds at 58 mph or greater. Storm spotters report via local contact, amateur radio, telephone, social media, storm

spotter network, and/or web reporting forms.

He then discussed weather fatalities including tornadoes, lightning, flash flooding, etc. Ed said flash flooding is the leading contributing weather related factor for deaths. Lightning has been a major cause in years past, but because of increased education and public awareness, fatalities due to lightning have significantly decreased.

Ed, then covered an old adage concerning lightning that people have followed for decades, but is actually very inaccurate: The adage has been, when you see a lightning strike count in seconds until you hear the corresponding thunder clap or roll and then multiply by 4 or 5 which will tell you how far away the lightning strike was in miles. He said, "If you hear thunder, you can be struck by lightning, period. A lightning strike can travel many miles. If you are involved in outdoor activities, allow 30 minutes after the *last* thunder you hear before resuming your activity."

To close the program, Ed discussed tornadoes, tornado safety steps, and how tornadoes are classified by the Enhanced Fujita scale. Concerning warnings, he said cellphone apps, the internet, NOAA weather radio, and other communications options definitely help, but that you need to make sure you have at least 3 sources to receive warnings in case other communication means fail.

He said two very good warning options to use in our area are:

Benton County: [www.BCalert.com](http://www.BCalert.com)  
and

Washington County: <https://www.washingtoncountyar.gov/government/departments-a-e/emergency-management/codered>



**BVRC President Jan Hagan – WB5JAN and Vice-President Joe Hott – W5AEN present Ed – W5SVR with the BVRC Certificate of Appreciation for his fine program**





# THE SIGNAL MARKS FIVE YEAR ANNIVERSARY

I can't believe it has already been five years since I sat down at the computer and put together the first issue of the BVRC newsletter. However, when you are a member of a club that has great programs, great activities, *and especially great article contributions from its members* – and when you combine all these fine attributes in constructing each month's issue – time does seem to fly by very quickly. I have been a member of several amateur radio clubs in my 54 years as a ham – good clubs. But this club has exhibited to me in abundance: camaraderie, congeniality, cooperation, and above all, *excitement about the hobby*. These characteristics have been the catalyst of continuing this work and attempting each month to provide you, our wonderful members, with the best club newsletter possible.

I would like to take this opportunity to thank the BVRC Board for the privilege they accorded me five years ago to become editor of the club's first official newsletter. It has been a pleasure.

We will continue to endeavor each month in assembling a newsletter that hopefully brings useful information to you, some entertainment, and perhaps a grin from time to time. Also, thanks so very much to the many of you who have sent e-mails to me and given me on-air 'kudos' advising how much you enjoy The Signal. We sincerely appreciate your kind words; that is what makes it all worthwhile.

And remember, I always relish any and all radio articles that you would like to send in to share in The Signal. Articles from you go a long way in making the newsletter interesting, because they are coming not from another ham publication or bulletin, but direct from the members of our BVRC family. So, please feel free to send me any amateur radio write-up that you would like to share.....anytime! (Send pictures too!)

As we progress into our 6<sup>th</sup> year with the newsletter, we will continue to hold forth the standard of *The Signal*, about our great club and our great hobby.

Very 73!

*Don*

K5DB – Signal Editor



# N5BVA PORTABLE SPECIAL EVENT STATION AT ELM SPRINGS CITY PARK!

BVRC members – Mark your calendar for Saturday, April 29, when the first of 2 N5BVA Special Event Stations will be activated from Elm Springs City Park to celebrate BVRC's 30<sup>th</sup> anniversary!

**Date/Time:** Saturday, April 29, 9:00am – 7:00pm local time

**Location:** Elm Springs City Park  
111 Jayroe Avenue  
Elm Springs, AR



**Activities:**

- Two Stations will be on the air. One station will be using an 80-10 meter Windom dipole; the other station will be using BVRC's newly acquired MA-5B mini-beam (this will be the premier of this antenna for the Club, as well as a test run in preparation for BVRC Field Day)
- Fox Hunting coordinated by BVRC's Elmer 911 Committee Chair, Vinson Carter – WV5C. Everyone with Fox Hunting gear, come and join-in! All others are welcome to follow the fox hunters around the park and see how it works. Jam-packed fun!

**Miscellaneous info:** Elm Springs City Park has a nice pavilion, AC mains, and restrooms. *No food or refreshments will be served* as this is a total operational event (we're saving the goodies for Field Day in June!) You are welcome to bring your own food, drinks, snacks, etc. Eating establishments are nearby in west Springdale, Tontitown, or the Elm Springs convenience store.

**Objective:** To allow attending BVRC members to operate, enjoy, and experience a Special Event Station and work the pileups, as there will be many stations calling. We especially extend an invitation to all club newcomers to come operate, as this will be a great warmup event to prepare you for Field Day. We look forward to newcomers and veteran operators to have their turn at the rigs and have some ham radio fun as well as great fellowship, as we celebrate our 30<sup>th</sup> year.

*See You April 29!*





## BOARD MEMBERS

### President

Jan Hagan – WB5JAN  
[janhagan51@gmail.com](mailto:janhagan51@gmail.com)

### Vice President

Joe Hott – W5AEN  
[joe.hott@gmail.com](mailto:joe.hott@gmail.com)

### Secretary

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

### Treasurer

Mark Whittlesey - WØKYZ  
[almarc11@yahoo.com](mailto:almarc11@yahoo.com)

### Technical Officer

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

### Trustee

Glenn Kilpatrick – WB5L  
[wb5l@arrl.net](mailto:wb5l@arrl.net)

### Member At Large and Public Information Officer

Tom Northfell – W5XNA  
[w5xna@arrl.net](mailto:w5xna@arrl.net)



## APPOINTED OFFICERS

### VE Testing Committee

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

### Elmer 911 Committee

Chair: Vinson Carter – WV5C  
[vinsoncarter@gmail.com](mailto:vinsoncarter@gmail.com)

### Nets Committee

Chair: Dana Widboom – KI5TGY  
[dcwidboom@yahoo.com](mailto:dcwidboom@yahoo.com)

### EmComm Committee

Chair: Chris Ebert - NAØD  
[wpuc675@gmail.com](mailto:wpuc675@gmail.com)

### Membership Committee

Chair: Tom Northfell – W5XNA  
[w5xna@arrl.net](mailto:w5xna@arrl.net)

### Social Media Committee

Chair: Rebecca Garrett – N5REB  
[rebdgarrett@gmail.com](mailto:rebdgarrett@gmail.com)

### Video Coordinator

Adnan Ademovic - KDØKCY  
[kd0kcy@gmail.com](mailto:kd0kcy@gmail.com)

### Webmaster

Glenn Kilpatrick – WB5L  
[wb5l@arrl.net](mailto:wb5l@arrl.net)

### Newsletter Editor

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



# From the Desk of the President

## A ROLE MODEL FOR BELLA VISTA RADIO CLUB'S COMMITMENT TO NEW HAMS AND MEMBERS

Bella Vista Radio Club has much to be proud of regarding our club's efforts to promote amateur radio and to train and license new hams into the hobby. Our club also prioritizes the support of new hams and club members after they receive their amateur radio license. Our programs and activities such as our Technician Weekend Class, our General Upgrade Class, our Ham 101 monthly live sessions as well as our weekly on-air HAM 101 net are all examples of how our club works to support and encourage new to our hobby.

It is always good to examine the best practices of other outstanding Amateur Radio Clubs to provide role models and other examples of excellence in club operations. With this thought in mind, I would like to offer a quick look some of the unique activities of the Nashua Area Radio Society in New Hampshire in their efforts to promote and support those new to amateur radio. Below is a brief statement regarding their mission followed by two interesting programs they feature to promote and support those new to the hobby: Ham Radio Activities Expo and their Ham Radio Bootcamp that has now partnered with the ARRL.

I thought you might enjoy reading from their website about these two activities of this outstanding club!



## About The Nashua (NH) Area Radio Society

The [Nashua Area Radio Society](#) is a 501c(3) non-profit organization dedicated to STEM (Science, Technology, Engineering, mathematics) Education through Amateur Radio and to the development of radio communications skills and Emergency Preparedness through Amateur Radio. Our organization's mission is to:

- Encourage and help people to become licensed and active in the [Amateur Radio Service](#)
- [Spark Interest](#) among Young People in STEM Education and Careers through Ham Radio
- Provide training and mentoring to enable our members to improve their technical and operating skills and to be prepared to assist in times of emergency
- Sponsor on-air operating activities so that our members may practice and fully develop their operating skills and have fun with Ham Radio!

## Ham Radio Activities Exposition

The [Nashua Area Radio Society](#) has created an Amateur Radio Exposition that we can provide as part of Ham Radio Conventions and at libraries, schools, and other public places to introduce young people and potential new Hams to Amateur Radio. Our display features more than ten high-quality activities that provide a chance to learn about and try many different aspects of Amateur Radio. Our display features several different Get On The Air (GOTA) stations including a [computer-controlled Satellite Ground Station](#) that folks can use to [communicate with other amateurs using satellites in space!](#)



## Ham Radio Bootcamp

**Ham Bootcamp** is becoming an ARRL Program! The Nashua Area Radio Society is working with the ARRL to bring Ham Bootcamp to a larger audience. See the ARRL Training page for more information and additional training and skills development programs. You can register to attend the next Online ARRL Ham Bootcamp by completing the form below.

Our Spring 2023 Online Ham Bootcamp will be held on Saturday, May 13th from 10 am to 6 pm Eastern Time. Access to the session will be provided via [Zoom](#).

<https://www.n1fd.org/register-ham-bootcamp/>

### Spring 2023 Online Ham Bootcamp

The online ARRL Ham Bootcamp sessions are designed to reach folks around the world and cover topics of interest to all Hams. Here is what we are planning for the next online ARRL Ham Bootcamp

#### TRACK

**Repeaters and  
VHF/UHF**

#### SESSION

**Bootcamp Introduction**

**Putting together a Station for Repeaters - How to pick a Radio and an Antenna**

**Making Contacts and Joining a Repeater Net**

**Radio Programming Tutorial**

**On The Air Satellite Demonstration**

**Getting started with Amateur Radio Satellites**

**Getting started with Fox Hunting**

**HF Activities**

**Putting together an HF Station for SSB, CW, and Digital**

**Picking and Putting up an HF Antenna, Feedline, and Ground**

**Operating on the HF bands using SSB Voice**

**Setting up WSJT-X and FT8 Digital**

**Interactive  
Breakouts**

**CW - Learning the Language of Morse Code**

**Finding DX and QSL'ing - Getting them in the log and confirmed**



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Finding DX and QSL'ing - Getting them in the log and confirmed

An Introduction to EmComm

Introduction to Portable Operating

Conclusion

Where to learn more and online

Ham radio shopping trip



**VIDEOGRAPHER  
NEEDED**

BVRC has been blessed to have our own Adnan Ademovic, KDØKCY, volunteer to serve as our club videographer this past year. Video production is Adnan's profession, and we were blessed he could offer his services for the club this past year. It is now time for us to look for a videographer to relieve Adnan and document club meetings and special events for our BVRC YouTube channel. If you have video editing skills and equipment and would like to serve in this role for this next year, please contact Jan Hagan – WB5JAN at our next meeting or at [janhagan51@gmail.com](mailto:janhagan51@gmail.com).





# NEWCOMERS: BVRC Is Here For You!

If you're new to BVRC and amateur radio, there are many of us that know EXACTLY what you're going through:

- What do I do now?
- How do I program my HT?
- How do I make a contact?
- What is FT8 all about?
- What's the best coax to use?
- What is APRS?
- What is a "hamfest"?
- What does "greyline" mean?
- What kind of radio should I get?
- Where can I find the repeater frequencies?
- Can I buy a decent HF radio on a budget?
- What kind of logging software should I use?
- What are these strange calls I'm hearing?
- Should I use just a VHF, or dual band, radio?
- How do I get involved with EmComm?
- How do I ground my station?
- What kind of antenna should I use?
- I have high SWR – what can I do?
- How do I learn Morse code?
- How can I learn about propagation?
- How do I operate on a Net?
- What are radials?
- How do I become a Storm Spotter?
- What is UTC?

We've all 'been there and done that'. That is why BVRC has many experienced hams that are here to guide and help you avoid some of the "walls" that you might run up against when learning the ins-and-outs of the hobby. And.....even if you're not new to ham radio and are in a quandary about something, *we're here for you too!* With BVRC, you have several resources that are available to you that will assist you in understanding what amateur radio is and how it works, and they're all out there waiting on your call for help!

- **ELMER 911** – This is an exclusive service for BVRC members, and in particular, our newcomers. You can pose a question 24/7 through ELMER 911. All you have to do is go to the ELMER 911 page on the BVRC website, then go to the ELMER 911 tab: <https://bellavistaradioclub.org/elmer-911/>. You will see a form that you can complete that describes your question or issue. Complete the form, then click "SEND". Our ELMER 911 Coordinator will then assign your question to one of our team of Elmers who will contact you via e-mail. You should get your answer in 12-24 hours, and sometimes sooner.
- **HAM 101 In-Person Meetings** – Just before each regular BVRC monthly meeting at 7:00 pm at the ALETA facility, come join us for the HAM 101 sessions, beginning at 6:00 pm. These sessions are designed specifically with newcomers in mind, so you can bring your questions, have those questions answered by our experienced Elmer hams present, and also learn more about the hobby from Q&As from other participating newcomers. We've had very good turnouts from this new feature on each BVRC meeting night. Our ELMER 911 feature is, of course, ultra-convenient. But if you'd rather enjoy the fun and excitement of in-person newcomer get-togethers, you can join-in with the monthly HAM 101 sessions, or you can join on-air newcomer gatherings each week on the BVRC HAM 101 Net. *Experienced hams are welcome to these sessions, anytime.*
- **BVRC HAM 101 Net** – Get your questions answered or issues resolved (as well as gaining on-air experience!) by joining us on our weekly HAM 101 Net. This net resembles the in-person HAM 101 monthly meetings, except it occurs on-air. A panel of Elmers will be on hand to field any questions or issues you might have. It's a fun on-air experience that you'll really enjoy and also learn net operation protocol in case you're unfamiliar with nets – a great learning experience! This net takes place on the WX5NAS Skywarn Link System. You can find the repeater that is closest to you and it's operating frequency, offset, and PL tone on page 1 of this newsletter. *Experienced hams are also encouraged to join us. You're welcome anytime!*

**So, take advantage of all these opportunities when you need help with something (experienced operators, too!) Send-in your question via the website, and also join us at the monthly in-person newcomer meetings and on the HAM 101 Net. Even if you may not have a question, join us anyway! BVRC has your back!**



## Bella Vista area Radio Club 30<sup>th</sup> Anniversary Calendar of Educational & Operating Events 2023

(Mark your calendar and join us for as many events as you can!)

### April 16:

BVRC/ARRL ROOKIE ROUNDUP

Info on page 21 of the February *Signal* issue

Questions or more information, e-mail Don: [arsk5db@gmail.com](mailto:arsk5db@gmail.com)

### April 29:

N5BVA SPECIAL EVENT STATION #1-SPRING

Two station portable operation from Elm Springs City Park

Full information [here](#)

### May 11 – 15:

WB5JAN & WB5L POTA Operation #2

Dam Site Lake Campground, Beaver Lake Wildlife Mgmt. Area POTA #K-7262

Reservations for campground:

<https://www.recreation.gov/camping/campgrounds/234651>

Questions or more information, e-mail [ianhagan51@gmail.com](mailto:ianhagan51@gmail.com) or [wb5l@arri.net](mailto:wb5l@arri.net)

### June 24 – 25:

ANNUAL BVRC FIELD DAY

Metfield Park, Bella Vista

**[DON'T MISS THIS ONE!](#)**

Information on this event forthcoming in future *Signal* issues.

### July 22 & 29:

Technician license class, ALETA in Springdale (Tom, W5XNA – Instructor)

Information on this event forthcoming in future *Signal* issues. Keep watching and tell your friends who would like to get their first ham license!

### August 19:

3<sup>rd</sup> Annual BVRC CW Roundup

Information will be in the August issue of *The Signal*

### October 14:

N5BVA SPECIAL EVENT STATION #2-FALL

Information will be in the October issue of *The Signal*



# BVRC VE REPORT

From Don Cooper - KC7DC, BVRC VE Coordinator  
March, 2022



## Congratulations!

**Isabelle Harrison – KI5ZXG – Fayetteville  
New Technician!**

**Devon Bivens – KJ5ADC – Elkins  
New Technician!**

**James Wood – N5ZMX – Lowell  
New General!**

**Sharron Edmondson – KC5SKY – Jay, OK  
New General!**

**Adnan Ademovic – KDØKCY – Huntsville  
New General!**

**Rebecca Tanner – KI5PSF – Bella Vista  
New General!**

**Nathan Spears – KEØVPI – Lowell  
New General!**

**David Patton – KØALZ – Carthage, MO  
New General!**

**Danny Stevens – KB5OPY – Lowell  
New Amateur Extra!**

***Test sessions are conducted each 2nd Saturday of the month:***

- 10 am at Shiloh Museum, 118 W. Johnson Ave, Springdale and***
- 2 pm at Bella Vista Fire Station #1, 103 NE Towncenter, Bella Vista***

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

# BVRC DIYers: Need Help With a Project?



*From Bill Durham, KG5ZCI*

I can provide a variety of metal working experience, as I own an extensive machine shop.

Welding (TIG MIG, steel or aluminum, silver brazing), milling, turning, bending, grinding and others are routine. So, if you need a hole drilled or some other work on a project that is holding up the works, just drop me an e-mail.



**KG5ZCI Workshop**

I also enjoy reproducing broken parts when possible – plastic, steel, aluminum, brass...

Over the many years that I have been in the electronics game, I have collected an extensive supply of resistors, capacitors, semiconductors, inductors and hardware. Again, if you are stuck, my inventory may be one of the best locally. Just ask!

Best of all, since I am retired and in good shape financially, **NO PAYMENT** is accepted. I love to shop at hamfests, tractor shows, and any other variety of junk sale so I am always adding on. If you need help with a project, just e-mail me at: [bdurham@uark.edu](mailto:bdurham@uark.edu).

73 – Bill, KG5ZCI

*Editor's note: Bill has already come to my rescue twice with his marvelous machine shop. See next page.*



Bill has helped me tremendously twice since he opened-up his shop to BVRC members in need.

The first time was last fall when I overhauled my tower anchors and antenna system. I purchased three 4½” steel pipes to set in concrete (which Vinson-WV5C helped me pour). The pipes were going to serve as the tower anchors to replace the old railroad ties I had been using. However, I needed loops or “ears” on top of each pipe to attach the guy line turnbuckles to. Bill graciously took some of his nice bar stock – 6 pieces – and bent them in a U-shape. When I brought the pipes to his QTH, he then mig welded the bar stock to the pipes, making excellent attachment points for the turnbuckles.



The second ‘K5DB rescue mission’ that Bill undertook for me was just recently. – I ran HF mobile in my Chevy S-10 pickup for many years until last spring, 2022, when I upgraded to a full size 2016 GMC Sierra pickup. To migrate my HF mobile station to my “new” pickup, I needed a mounting bracket for my Hustler mobile antenna base. Bill came up with a super idea as to how to secure a bracket to the pickup without having to drill into the pickup bed or frame at all. – He used one of the postholes in the bed to insert a 1½” square steel channel into. He then used a ¼” piece of flat steel stock extending into the truck bed and drilled the holes to *exactly* match my mobile antenna mount’s 3 mounting bolts and center feed bolt. He then drilled a hole in one side of the channel stock and tapped it with threads and welded the flat stock on top of the channel stock, and voila! – I now have a quality, custom made bracket for my mobile antenna mount. After inserting the bracket into my pickup bed posthole, it is secured with a regular hex bolt. It is a super easy installation. And.....Bill supplied the labor and materials for free. He wouldn’t accept any type of compensation. I REALLY appreciate his time and his kindness.



So, if you ever need some help with anything around the shack, I’ll bet you Bill can help. He has the equipment and materials to do it with. And, he makes great desserts for our club meetings too! THANK YOU SO VERY MUCH, BILL.





# WELCOME NEW BVRC MEMBERS!!!

Scott Bridges – NØSAB – Springdale  
Nathan Spears – KEØVPI - Lowell

## BVRC

**Monthly Programs  
Needed!**

Would you be interested in presenting a program for an upcoming monthly meeting on a radio related topic? Or, do you know of someone who could join us as a guest speaker for a monthly club program? If so, contact

Jan-WB5JAN at: [janhagan51@gmail.com](mailto:janhagan51@gmail.com)

or

Joe-W5AEN at: [joe.hott@gmail.com](mailto:joe.hott@gmail.com)



# EQUIPMENT CORNER

FOR SALE: Kenwood TS-430S and power supply, with matching Kenwood AT-20 auto antenna tuner and Kenwood MC-50 microphone. Fully operational, in very good condition. Great starter for HF newcomers. \$425.00 for the package.



FOR SALE: Galaxy V transceiver with power supply. Also fully operational and in very good condx. 300w output. Another good starter radio for newcomers to HF. \$225.00



***If interested in either of these items, contact Joe – K5JWR in Bentonville:***

E-mail: [rhinoj1@gmail.com](mailto:rhinoj1@gmail.com)

Phone: 501 – 516 - 5410

# GETTING ON SLOW SCAN TV



By Mike Schroeder – NØALJ

SSTV (Slow Scan Television) is a really fun image mode of operation. Now it's easier than ever to get on and send and receive pictures on HF and even 2 meters. Sometimes the International Space Station even downlinks SSTV photos!



Back when the Russian MIR space station was still in orbit, I was able to receive SSTV photos a few times.



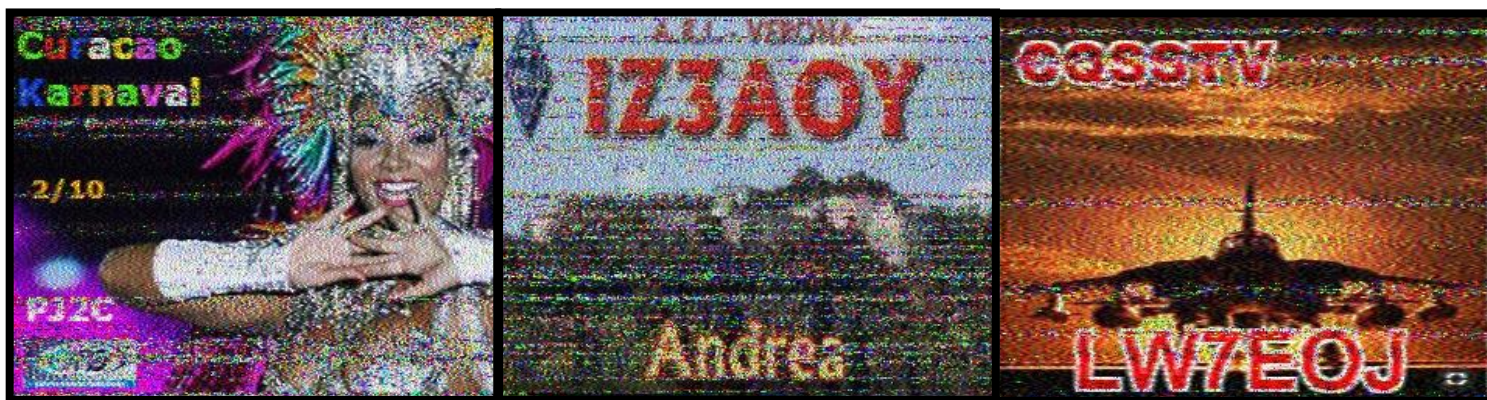
NØALJ Station

My station uses a Yaseu FT-450D HF transceiver and the Tigertronics Signalink USB sound card - radio interface. The Signalink USB interface works with virtually all radios and features it's own built in sound card, is powered from your PC's USB port and offers complete radio isolation. When you order your Signalink USB, you specify the radio type so that it ships with the proper cables needed to interface to your radio and your PC. You also have the option of ordering a radio specific plug and play jumper module, which I highly recommend, as it plugs in place of the jumper wires you would otherwise have to configure for your radio. This greatly simplifies installation and completely eliminates the possibility of installing the jumper wires incorrectly.



The SignalLink comes with a nice manual to help you configure your PC's audio support for using the interface with MMSTV and various other ham software like WSJT-X.

The SignalLink USB interfaces to my HP Notebook PC, running Windows 10, using only a single USB cable and to my radio using a second cable that plugs into the back data port. This leaves the front microphone connection still available for my Yaesu MD-100 desk microphone! The majority of SSTV operators I have encountered use the freeware for Windows operation known as MMSSTV written by JE3HHT - Makoto Mori. This easy to use program can be downloaded from the Hamsoft website and is quick to set up. I am running version 1.13A. I really like how I can also run other digital modes too like FT8 using the Signalink USB interface and it's quick and easy to switch from SSTV to FT8, back and forth. Because SSTV requires full duty cycle for SSTV transmission, it is highly recommended that the transmit power be wound back to less than 50 watts (20 watts best) for the average 100 Watt HF SSB transceiver or to about the AM rating of the transceiver. Also make sure that your antenna system has low SWR, otherwise, these two things could make short work of you radio's finals!



You can find videos on how to setup MMSSTV for first time use on YouTube. MMSSTV comes with sample templates to help you customize and edit your photos you install for transmission. Pictures are automatically received and saved historically using the many popular modes of SSTV operation that are available like Scottie1 or Martin1.

With video editing, most SSTV QSO's don't even use voice anymore. The majority of HF SSTV operation is found on 20 meters at 14.230 MHz USB but other frequencies for SSTV include 28.680 MHz USB, 21.340 MHz USB, 7.171 MHz LSB, 3.845 MHz LSB and 1.890 MHz LSB.



I have seen a lot of SSTV DX in the mornings on 28.680 MHz USB. You can also visit online SSTV CAMS on the internet to see live snapshot examples of SSTV photos or see how your picture was received at other ham stations. A few SSTV repeaters even exist but so far I have not worked one yet. 73! – Mike, NØALJ

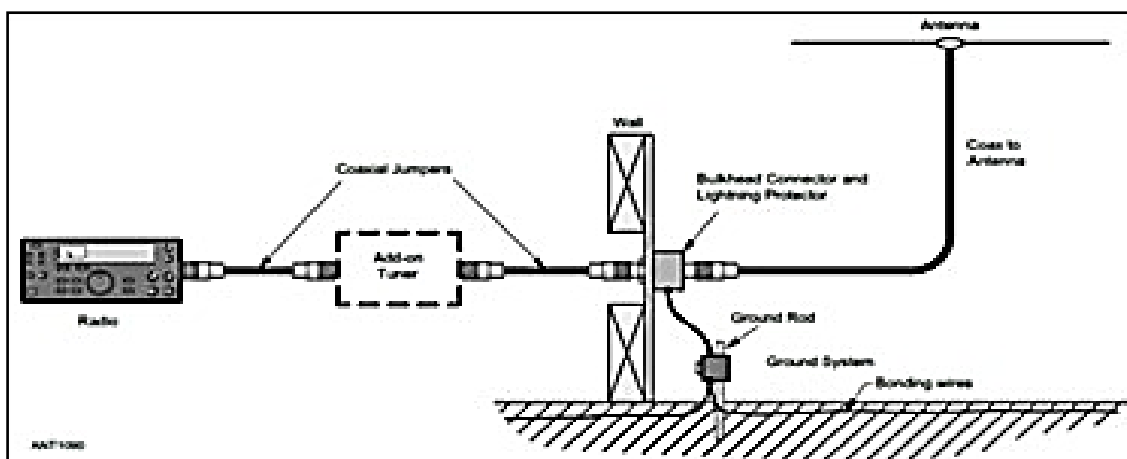
# Use That 75Ω TV Coax!

Part 1 in a series of articles about antennas

By Jon Williams – K5DVT

“But you can’t do that! - - - - - You can’t use 75 ohm coax...IT JUST WON’T WORK!”

You’ve probably heard something similar before. In this first article in a series, I hope to highlight some “out of the box” ideas about antenna systems and the basics for those just getting acquainted with amateur radio. In this article, we are going to be bringing the feed point to you....



The above figure from Ward Silver, NØAX, depicts a standard station. Take note that the tuner is usually by the comfort of the radio operating position and not AT the antenna.

Okay, so we now have the above picture – 50 Ohm coax to the tuner, 50 Ohm coax to the lightning arrester (or in some cases not one), followed by 50 ohm coax up to the antenna. All nice and 50 Ohms. Our antenna is also 50 Ohms, right?

NO.....It’s different for different antennas, but at the best operating “spot” (called resonance) the ideal dipole is 72 ohms! This 72 to 50 Ohms causes a Standing Wave Ratio (SWR) to form, and a portion of the power sent to the antenna will be ‘reflected’ back down towards the transmitter. This SWR is easy to calculate: simply  $72/50 = 1.44$ .



Not only is this an inefficiency, but no one also wants to blow up an expensive HF radio. If you have 100 watts from the transmitter into a 2:1 SWR antenna, 33% of your power (33 watts!) is being reflected to your transmitter. Yikes! But when there is SWR on coaxial cable, the losses increase. Your coax will burn up some of that forward going and reflected power. In other words, you could have a SWR at the antenna of 2:1, but only “see” a SWR of 1.5:1 at your transmitter due to the losses.

We can “fix” this SWR by placing an “antenna tuner” *at the antenna feed point* to match the 72 to the 50 ohms so there is no losses on the feedline. That tuner would be hard to get at though, as most dipoles are 30-40' in the air and we still are averaging 40 degree temperatures this time of year. I want it next to me where it's warm in the shack. So we can also “fix” this SWR at the transmitter with a “antenna tuner”. This “antenna tuner” more appropriately matches the 1.44:1 SWR to the 1:1 that the transmitter wants to make itself happy.

Yay! We now have a happy transmitter and an antenna in the air. This is the end for most people, and they usually don't give their station much thought after this. However! – There are still large losses on the coax, though. All transmission lines have a certain loss for a certain frequency (depends on the type used) but with a SWR on it, the losses increase even more. Many people are losing their transmitter power in these losses, and their transmitters are suffering for it. What's the solution then?

Use 75-Ohm coax! The kind used for cable TV! Yep, I've said it. – Use the stuff. It's cheap (RG-11 is only 16 cents a foot!) and has similar characteristics to LMR 400 (RG-6 is similar to RG213).



Let's run some numbers and have a look: What will the mismatch be at our 72-Ohm dipole?  $75/72 = 1.041!$  You wouldn't be able to tell the difference between this and a 1:1 SWR.

But when we have our 75-Ohm line in the shack, how do we match it to our 50 ohm transmitter? Well, we have two options here:

- 1) Don't match it.  $75/50$  is 1.5:1 SWR, still good. The reflection is right near the transmitter, so there is still no losses caused by SWR on the feedline.
- 2) Use an antenna tuner (more appropriately called a 'matcher') right at the radio as in diagram. This will trim the antenna into spec.

It should be seen that by using the 75-Ohm coax we are bringing the feed point *from* the antenna *to* the station. Thus, our antenna tuner is “at” the feed point while also being at a convenient point for using it.

It shouldn't be without mentioning that you can build a matching network (thus eliminating the antenna tuner) by using select lengths of transmission line. That's above the scope of this article here but can be done. Of course, the lengths are then critical to what frequency you are operating.



# The 2023 Arkansas QSO Party

Is Just Around  
the Corner, May 20!



Join in on the fun & excitement !!!

Each year on the 3rd Saturday in May, the state of Arkansas takes center stage in the amateur radio world, as hams from all over the globe tune the bands to make a QSO with one of the fine hams in our great state. This year's Arkansas QSO Party date is May 20.

Whether non-Arkansas stations are pursuing their Worked-All-States award, needing a particular county or counties, or just enjoying operating in our annual event, they know that Arkansas is a fairly rare state to be found and worked, no matter if they are a stateside or DX operator. So, they will be scanning the bands for Arkansas stations.

Each year The Noise Blankers Radio Group is pleased to sponsor The Annual Arkansas QSO Party. NBRG promotes the ARQP by keeping all national journals and major ham radio websites updated on the event, and maintaining the ARQP website.

Even though it *is technically* a contest, non-contesters return each year to enjoy meeting new friends while operating in our annual event, at their own pace and convenience. If you've never operated in an Arkansas QSO Party, give it a try this year! For returning participants.....see you on the bands!!!

*The Noise Blankers Radio Group – callsign WR5P – will be the Bonus Station for this year's ARQP.*

**Get all the info you need at:**

**[www.arkqp.com](http://www.arkqp.com)**



A police officer called dispatch on his radio.

OFFICER: "I have an interesting case here. An old lady just shot her husband for stepping on the floor she just mopped."

DISPATCHER: "Have you arrested the woman?"

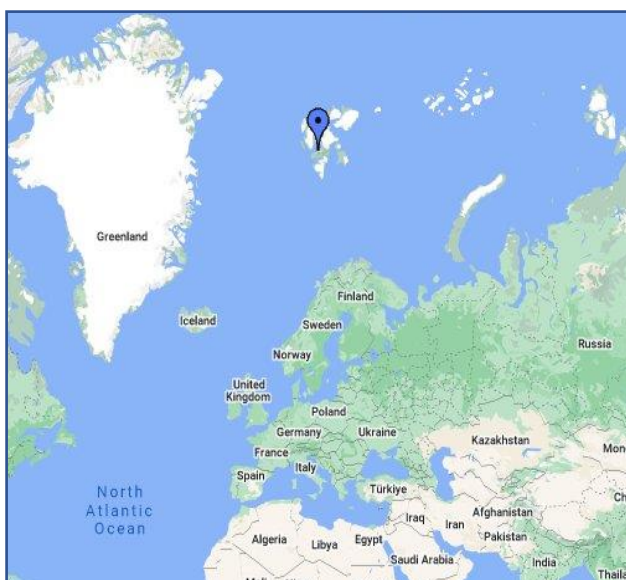
OFFICER: "Not yet. The floor's still wet."



Welcome BVRC readers to a new feature column that will appear in future issues of The Signal – ‘The DXCC Den’. As well as to provide interesting information and entertainment, this column will have as its objectives to: 1) Feature an out-of-the-ordinary DXCC entity (country) each month with its geographical location, information about the entity and its amateur radio history, as well as 2) Perhaps spark an element of curiosity for those who presently do not know about or pursue contacting countries outside the U.S., and hopefully encourage them to explore this fascinating aspect of amateur radio. Please enjoy our new column!

## **THIS MONTH'S FEATURED COUNTRY: SVALBARD**

### **CALLSIGN PREFIX: JW**



To introduce our new column, we begin our DXCC countries excursions by traveling inside the Arctic circle to the island country of Svalbard. Svalbard lies about halfway between the northern coast of Norway and the North Pole. It is owned and administered by Norway. It is also sometimes referred to as Spitsbergen, the name of the largest of the group of islands that form the country.

Whalers who sailed far north in the 17th and 18th centuries used the islands as a base; subsequently the bases were abandoned. Coal mining started at the beginning of the 20th century, and several permanent communities were established.

Being north of the Arctic Circle it experiences, on average, 99 days of continuous sunlight (‘the midnight sun’) and 84 days of continuous polar night.



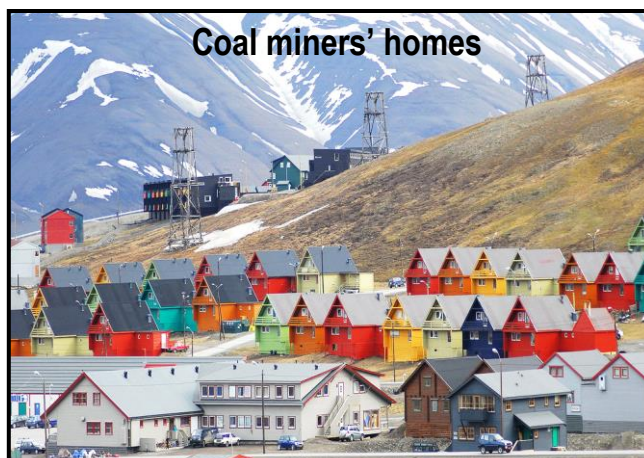
In 2016, Svalbard had a population of 2,667 of which 423 were Russian and Ukrainian, 10 Polish, and 322 non-Norwegians living in Norwegian settlements. The largest non-Norwegian groups on the island of Longyearbyen are mainly from Russia, Ukraine, Poland, Germany, Sweden, Denmark, and Thailand.

The three main industries of Svalbard are coal mining, tourism, and research. Since the resettlement of Svalbard in the early 20th century, coal mining has been the dominant commercial activity.

Amateur radio does exist on Svalbard, but in limited quantity. The Svalbard Amatør Radio Klubb is located in Spitsbergen, and is a member of the NRRL – Norwegian Radio Relay League. The club callsign is JW5E.

Due to the ham population being small, DXpeditions to Svalbard occur occasionally. The last DXpedition to visit Svalbard was in April, 2022, using callsign JWØX. Due to these numerous DXpeditions, coupled with the activity from the native hams, Svalbard isn't extremely rare – currently, it is #201 on the most wanted DXCC countries list – but it can be a challenge to work.

Signals received from Svalbard, like any of the other Scandinavian countries in the region, are usually “warbly” or “fluttery” sounding, usually as a result of the aurora borealis and requiring the receiving operator to ‘develop an ear’ in successfully copying the signal on SSB and CW. However, it is definitely an interesting and unusual prize to add to your DXCC countries “worked list” when you do work it.



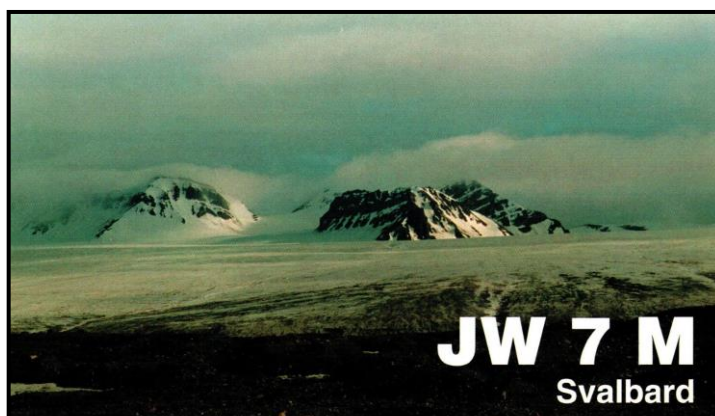
Coal miners' homes



Polar bear highway warning sign



NASA research facility at Ny-Ålesund



One of my Svalbard QSL cards



# AMATEUR RADIO AMPLIFIERS



Many amateur radio operators consider using amplifiers at full legal power (1500 watts maximum in many countries) like shooting fish in a shallow creek at close range with a double-barreled shotgun! Where's the sport in that?

On the other hand, there are circumstances that justify using full legal power, or at least, higher power than most transceivers emit.

Those circumstances do not include casual DXing and most certainly not "local" rag chewing!

Here are some of the justifiable circumstances for using high RF power output:

## ***Emergency Traffic Handling***

One of the major reasons behind all the privileges that we enjoy as amateur radio operators is that at least some of us are expected to serve as volunteers to supply emergency communication services when disaster strikes.



## Moonbounce (EME, Earth-Moon-Earth)

Some of the more technically inclined among us like to bounce VHF, UHF or SHF signals off the moon to reach other hams that are normally beyond normal range.

Of course, besides an amateur radio amplifier, one needs to have the space for the antenna arrays!



## HF DX Contests

Many serious contesters will regularly use an amateur radio amplifier to "punch" through heavy QRM and/or QRN, while calling CQ thousands of times looking for contacts. If the other stations can't hear you, they can't answer you. Concerning contesting, you can operate at a lower power level if you wish, of course! You will, however, usually experience less contacts and the exchange you make with other stations may have to be repeated several times before the other station acknowledges your information due to running lower power. There are usually operating classes or divisions for # of transmitters, # of operators, and of course, power level. With an amplifier you will not experience the slower operating and QSO rate as, obviously, you have an easier signal to copy.

## Amateur Radio Nets

There are nets (a meeting of several or many stations on one frequency) to be found on just about all the main HF ham bands (80,40,20,15, and 10 meters).

These nets serve many different purposes: Severe weather, hurricane, earthquake, and other natural disaster emergency nets, DX nets, county hunter nets, Worked-All-States nets, maritime mobile (ham stations on boats or ships) nets, informal nets, and so on.

No matter what the purpose of the Net is, the lifeblood of the Net is the NCS (Net Control Station). The NCS is the "traffic light" of the net – keeping structure and coordination within the net, while directing traffic and calls within the Net. It is not essential for an NCS to run an amplifier, but it is advantageous for the Net members to have a good NCS signal to copy easily.



## Safety First!

Good operating practice is to use as little power as necessary to maintain a solid contact during a QSO. Amplifiers generate *lethal* high voltages. Extreme safety precautions are in order! *Make sure if you use an antenna tuner that it is rated to handle the output power of the amp!* And, be sure your transmitter is set for a *reasonable* bandwidth to avoid splattering.



# Get Concise Weather Alerts With Weather Radios Equipped with S.A.M.E.

By Don – K5DB

With severe thunderstorm / tornado season upon us, tornadoes and severe thunderstorms, a year 'round threat, are almost always on our minds. Many of us have weather radios, and many of us have been jarred awake at night from a deep slumber to the piercing alarm sounds of a weather alert – not for you, but for some county a hundred miles away! Today, as a standard feature, the counties only to be reported for and even the types of weather alert message can be tailored to the specific location and desires of the individual so that you are not disturbed by “false” alerts not pertaining to your area.

## NOAA Weather Radio All Hazards (NWR)

NOAA Weather Radio All Hazards (NWR) is a nationwide network of radio stations broadcasting continuous weather information from the nearest National Weather Service office. NWR broadcasts official warnings, watches, forecasts and other hazard information 24 hours a day, 7 days a week. Known as the "Voice of NOAA's National Weather Service," NWR is provided as a public service by the National Oceanic and Atmospheric Administration (NOAA). NWR numbers 1000 transmitters, covering all 50 states, adjacent coastal waters, Puerto Rico, the U.S. Virgin Islands, and the U.S. Pacific Territories. NWR requires a special radio or scanner capable of picking up the signals and broadcasts are found in the VHF (public service) band at these seven frequencies: 162.400, 162.425, 162.450, 162.475, 162.500, 162.525 and 162.550 MHz.

## S.A.M.E. ALERTS

Specific Alert Message Encoding (SAME) alerts are the ultimate in safety and convenience. Watches and warnings are issued via both the original 1050 Hz tone and the digital SAME format. SAME technology allows you to specify the particular area for which you wish to receive alerts. Most warnings and watches broadcast over NOAA Weather Radio are county-based or independent city-based. Since most NWR transmitters are broadcasting for a number of counties, SAME receivers will respond only to alerts issued for the area (or





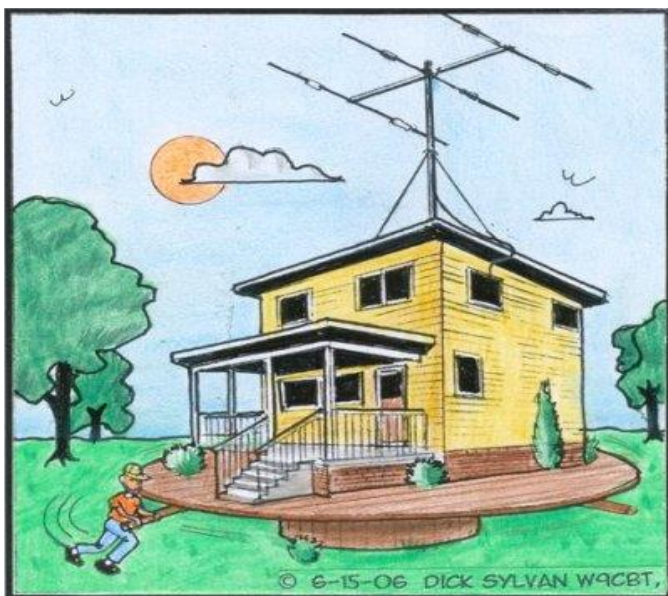


areas) you have selected. This minimizes the number of “false alarms” for events which might be a few counties away from where you live. In addition, while SAME allows you to specify a particular area of interest, some receivers allow you to turn off alarms for certain events which might not be important to you. For example, if you lived in a coastal county, but not right at the beach, you might not care about coastal flood warnings. On particular weather alert radio models, this feature may also be called "Event Blocking" or "Defeat Siren". Being able to ignore non-critical warnings can ultimately enhance the user’s safety, for just as in the fable of the “Boy Who Cried Wolf,” the human mind has the tendency to become ‘de-sensitized’ to incessant and too frequent non-applicable warning calls.

**WEATHER ALERT RADIOS**

Weather radios are very plentiful these days – and that’s a good thing. Or, at the least, you may find weather radio reception and features integrated with the newer amateur radio transceivers and handi-talkies. You can buy weather alert radios at many retail outlets such as electronics, department, sporting goods, boat and marine accessory stores, and even grocery stores. An online shopping site such as Amazon.com may bring the best deal. Prices range from \$20 to over \$100, and when considering a radio to purchase, look for those displaying the SAME, Public Alert, or NOAA Weather Radio (NWR) All Hazards logos on their case.

To keep yourself informed during severe weather events you have several options: NOAA weather radio, cellphone apps, the internet, etc. Always have 3 sources to choose from in case one of the other communications modes cease to function. A S.A.M.E. NOAA weather radio is one of the best options you can have.



SOMEHOW, CLYDE NEVER FULLY GRASPED THE CONCEPT OF HOW TO ROTATE A BEAM



# GOOD OPERATING PROCEDURES FOR HAMS NEW TO HF

Getting on the HF bands for the first time is one of the most exciting times for anyone that holds an amateur radio General or Amateur Extra class operator license.

For many seasoned and veteran General class license holders and above, earning the privilege of HF operating was well beyond words to describe! But here are two or three that will help you!

Normal and DX Operating on HF is very different from the 2-meter, 6-meter, 440, and bands higher. You won't be using repeaters on HF like in the case of 2-meters or 70cm, as you were with your Technician class license. You will strictly be in direct contact with the station on the other end, much like simplex on 2 meters. Your contact may be on the other side of the town you live in, on the other side of the world, or in-between, using HF frequencies.

Depending on the time of day, propagation, the band you have selected, the mode you're using, and many other variables, your contacts may be "loud and clear" or almost down in the noise. You will have to accept major interference from Mother Nature's lightning crashes, solar storms, power line and other man made device noise, and sometimes just too many stations on or near your frequency.

HF ham radio operating can be a challenging adventure at times when all of those variables are working against you so don't expect crystal clear FM quality as if you're operating on a repeater on the 2 meter ham band all of the time. It's kind of like going fishing, sometimes you have a great catch with strong signals, and other times, not a nibble! Don't give up – you will make contacts, and you will find a whole other and exciting world in HF operation.

Probably the most important thing you need to remember when transmitting is *identifying*. FCC rule 97.119 states that each amateur station (except a space station or telecommand station) must identify at the beginning and end of each transmission, and at least every 10 minutes during a communication. When identifying, there is no need to give your callsign and then say "For ID".....you callsign *is* your ID!

There are fundamental steps in HF operation. Let's cover some of the more important elements (which are not necessarily in any order of importance). The more you operate HF, the more these characteristics will become an automatic nature to you, and the more successful and fun your HF operations will be.





## 1. LISTEN, LISTEN, LISTEN

*"Hey...wait a minute...I thought ham radio was about 'talking'!"* It is. – But you will be surprised at how much you can learn about operating and ham radio by just listening around the bands! You always listen first to make certain the frequency is not busy before you transmit. If you're bored with that video game, the internet or whatever, get on any active ham band and tune around until you hear an interesting conversation. Listen to the conversation and try to pick out ham terms, topics, or phrases you don't know the meaning of.

## 2. BE PATIENT

Making a contact to get any station to call you on HF usually requires that you use the term "CQ" repeated at least 2 or 3 times in a row along with your call sign on the end and waiting for a reply. If none, repeat it over again....then try the third time and hope for an answer to your call. If still none, don't get discouraged!

If you have called CQ a multitude of times and still get no answer, try to figure out why....is it our old friend/enemy propagation? Your equipment? Your antenna type or setup? Do you have power out to the antenna? How do you know? Do you show output on the power meter? How is the SWR? Check your complete station setup including all controls, functions, cables, etc. (Is your antenna still up?!) Contact a local ham on the phone or via email and set up a time and frequency for a local QSO with them to check out your station on the air. If you're trying to make a contact and can't, more times than none, chances are that propagation is against you.

## 3. USE PHONETICS

*(Phonetics was a feature article in a previous issue of The Signal, but we will briefly revisit it.)*

One of the major causes for voice communication errors is the misunderstanding of the spoken word on HF especially when operating under noisy conditions. Using the SSB mode under the assumption that it is a high fidelity mode like FM will surely disappoint you. There are many "accents" to the human voice and being in the sideband mode causes some words at times to be very unclear if the sending station is having technical problems with his microphone or audio circuits in his transceiver or you are operating under high noise levels.

If the other station's audio is extremely distorted, cordially and in a spirit of helpfulness, tell him so. He may have his mic gain cranked wide open, compressor full blast or a combination of both causing the background noise in his shack to be as loud as his voice! Or, his mic may be causing the problem and he may not know it. Again, let him know that you think he has a problem with his audio.

Even under the best of conditions, SSB communications can sometimes be hard to understand and if you have a hearing problem, even more so..... ENTER PHONETICS!

The definition of the word "phonetics" is: The study of speech sounds.



The phonetic alphabet is used to spell out letters in place of just saying the letter itself. By using a word for each letter there is less chance that the person listening will confuse letters.

For example, some letters that can easily be confused are "D" and "B". Using the phonetic alphabet, "Delta" and "Bravo" can be easily understood. The phonetic alphabet is used primarily in two-way radio communications. The effects of noise, weak signals, distorted audio, and radio operator accent are reduced through use of the of the phonetic alphabet.

This system of pronouncing letters is used around the world by maritime units, aircraft, amateur radio operators, and the military. This alphabet is recognized by the International Civil Aviation Organization, Federal Aviation Administration, International Telecommunication Union, and NATO as the standard for aircraft and radio communications.



Using phonetics can help tremendously in the understanding of the more difficult sounding words, numbers, etc. It would be hard not to

understand the call sign KA6FSX by using phonetics: Kilo-Alpha-6-Foxtrot-Sierra-Xray.

Here is the ICAO (also known as the NATO or military) phonetic alphabet and numbers used in amateur radio. Memorize it because you will use it often:

| Character | Pronunciation | Character | Pronunciation |
|-----------|---------------|-----------|---------------|
| A         | Alpha         | S         | Sierra        |
| B         | Bravo         | T         | Tango         |
| C         | Charlie       | U         | Uniform       |
| D         | Delta         | V         | Victor        |
| E         | Echo          | W         | Whiskey       |
| F         | Foxtrot       | X         | X-Ray         |
| G         | Golf          | Y         | Yankee        |
| H         | Hotel         | Z         | Zulu          |
| I         | India         | 0         | Zero          |
| J         | Juliet        | 1         | One           |
| K         | Kilo          | 2         | Two           |
| L         | Lima          | 3         | Three         |
| M         | Mike          | 4         | Fo-wer        |
| N         | November      | 5         | Five          |
| O         | Oscar         | 6         | Six           |
| P         | Papa          | 7         | Seven         |
| Q         | Quebec        | 8         | Ait           |
| R         | Romeo         | 9         | Niner         |

#### 4. THE R-S-T REPORTING SYSTEM – Learn how to send and receive a signal report

Once upon a time during a roundtable discussion group, one of the roundtable members who was new to HF ham radio asked one of the other members of the group to give him a signal report.

The report he got back from the other station was, "You're 59". Silence was heard for a few moments and then the new ham said, "I did not want you to guess my age....how do you hear me? The reply was again, "You're 59". "What do you mean?" the new ham said. Then another station in the roundtable began a very lengthy dissertation to try to explain the RST reporting method to him that *no one* could have understood.

He started talking about power levels, dB's, S-meters, propagation, antenna theory, brand names, receiver sensitivity and on and on for a good five minutes! When the new ham started to ask questions, another station spoke up and totally confused the situation even more! Then another station put-in his 'two cents" worth. After a couple more questions with no clear answers, the new ham finally said "I still don't understand how well you are hearing me. I hear the phone ringing – gotta go!" and he signed-off abruptly, being very confused and probably disgusted.

In answering his question, "How do you hear me?", it would have been much better in this case to just say "loud and clear" since the new ham had obviously not studied the RST system of signal reporting and none of the roundtable station operators could explain RST to him in simple terms. They just seemed to want to dazzle him with as much "info" as possible. They were trying to help in their own way, but did not want to admit their lack of a "good" explanation. They should have simply suggested that he study the RST reporting system on the internet or printed matter, where he could find that information.

To you new hams, or anyone for that matter who knows nothing about giving or receiving signal reports using the RST method.....read on!

#### THE RST REPORTING SYSTEM IN A NUTSHELL

An RST report is a report from a receiving station on the quality and strength of the transmitted signal, using shorthand in the form of numbers to represent the tone of a CW signal or voice transmission of a transmitting station's signal at the receiving station's QTH (location).

Here is what it means:

**R – Readability:** Understanding what is said and how well, on a scale of 1 to 5. The readability of your signal with a "5" being perfect with no difficulty. In other words the ability of the other operator to understand what you are saying, down to a "1" which is unreadable.

**S – Strength:** On a scale of 1 to 9, and shown on your radio's S-meter, this indicates how strong your station's signal is. A "1" is a very faint signal, a "9" is a strong signal, and anything over 9 is an extremely strong signal. At times, you will hear HF operators receiving an extremely strong signal, advise the transmitting station, "Great signal! You are 20 over 9, 15 over 9, or whatever their S-meter is indicating.

**T – Tone:** This # is added when CW (Morse code) is being used. It indicates on a scale from 1 to 9, the quality of the tone of the morse code "dits and dahs". .... From a "very pure tone" (9), to a 60-cycle "harsh" tone (1).





So, during a SSB QSO (contact), the signal report sent and received would only consist of two numbers (R and S). During a CW QSO, the signal report would consist of three numbers (R, S, and T).

Hence on SSB if you received a "4/4" signal report from another station, that would translate to your signal being readable with a small amount of difficulty, and your signal is fairly copyable.

| Readability - Strength - Tone: RST Signal Reports |   |                                   |  |
|---|---|-----------------------------------|--|
| R-S-T Characteristics                             | Readability R                                     | Strength S                        | Tone T (cw)  |
| 1   | Unreadable  | Faint signals, barely perceptible | Sixty cycle a.c. or less, very rough and broad             |
| 2   | Barely readable, occasional words distinguishable | Very weak signals                 | Very rough a.c., very harsh and broad                      |
| 3   | Readable with considerable difficulty             | Weak signals                      | Rough a.c. tone, rectified but not filtered                |
| 4   | Readable with practically no difficulty           | Fair signals                      | Rough note, some trace of filtering                        |
| 5   | Perfectly readable                                | Fairly good signals               | Filtered rectified a.c. but strongly ripple-modulated      |
| 6   | N/A   | Good signals                      | Filtered tone, definite trace of ripple modulation         |
| 7   | N/A   | Moderately strong signals         | Near pure tone, trace of ripple modulation                 |
| 8   | N/A   | Strong signals                    | Near perfect tone, slight trace of modulation              |
| 9   | N/A   | Extremely strong signals          | Perfect tone, no trace of ripple or modulation of any kind |

## 5. PROSIGNS, Q-SIGNALS, AND CW ABBREVIATIONS

**Q-signals** can be used on SSB, but are mostly used on CW and Digital modes. They are also a kind of "shorthand". International Q-signals are an abbreviated way to exchange a great deal of information with a simple code. Below are some of the more commonly used Q-signals:

# Q CODES

- QRL • Is the frequency busy? The frequency is busy. Please do not interfere.**
- QRM • Abbreviation for interference from other signals.**
- QRN • Abbreviation for interference from natural or man-made static.**
- QRO • Shall I increase power? Increase power.**
- QRP • Shall I decrease power? Decrease power.**
- QRQ • Shall I send faster? Send faster (WPM).**
- QRS • Shall I send more slowly? Send more slowly (\_\_\_ WPM).**
- QRT • Shall I stop sending? Stop sending.**
- QRU • Have you anything more for me? I have nothing more for you.**
- QRV • Are you ready? I am ready.**
- QRX • Standby.**
- QRZ • Who is calling me?**
- QSB • Abbreviation for signal fading.**
- QSL • Received and understood.**
- QSO • Abbreviation for a contact.**
- QST • General call preceding a message addressed to all amateurs.**
- QSX • I am listening on \_\_\_ kHz.**
- QSY • Change to transmission on another frequency (or to \_\_\_ kHz).**
- QTH • What is your location? My location is \_\_\_\_.**

As you can see from the above table, you can ask a question when you send a Q-signal with a question mark (?) following it, or you can make a statement with a Q-signal by omitting the question mark at the end of the signal.



CW procedural signals – or prosigns – are shorthand signals used in radio telegraphy procedures, for the purpose of simplifying and standardizing communications related to radio operating issues among two or more radio operators. They are distinct from general Morse code abbreviations, which consist mainly of brevity codes that convey messages to other parties with greater speed and accuracy. The below table lists many of these prosigns, although only a few are the main signals used in CW communications:

| PROSIGN            | MEANING                           |
|--------------------|-----------------------------------|
| AA                 | All After                         |
| AA                 | Unknown Station                   |
| AB                 | All Before                        |
| AR                 | End of Transmission               |
| AS                 | Wait                              |
| B                  | More to Follow                    |
| BT                 | Long Break                        |
| C                  | Correct/Correction                |
| DE                 | From                              |
| EEEEEEEE           | Error                             |
| F                  | Do not answer                     |
| FM                 | Originator's sign                 |
| G                  | Repeat back                       |
| GR (numeral)       | Group count                       |
| GRNC               | Groups not counted                |
| HM (three times)   | Emergency silence                 |
| II                 | Separative sign                   |
| IMI                | Repeat                            |
| INFO               | Information addressee sign        |
| INT                | Interrogative                     |
| IX                 | Execute to follow                 |
| IX (5-second dash) | Executive signal                  |
| J                  | Verify with originator and repeat |
| K                  | Invitation to transmit/over       |
| NR                 | Number                            |
| O                  | Immediate                         |
| P                  | Priority                          |
| PT                 | Call sign follows                 |
| R                  | Receipt/Roger                     |
| R                  | Routine                           |
| T                  | Transmit to                       |
| TO                 | Action addressee designator       |
| WA                 | Word after                        |
| WB                 | Word before                       |
| XMT                | Exempted addressee designator     |
| Z                  | Flash                             |

**6. KNOW YOUR FCC REGULATIONS – Familiarize yourself with FCC Part 97 rules. This is required of all U.S. hams.**

**7. KNOW 'The Amateur's Creed' – The radio amateur is:**

- **CONSIDERATE** – Never knowingly operates in such a way as to lessen the pleasure of others.
- **LOYAL** – Offers loyalty, encouragement and support to other amateurs, local clubs, and the American Radio Relay League, through which amateur radio in the United States is represented nationally and internationally.
- **PROGRESSIVE** – With knowledge abreast of science, a well-built and efficient station, and operation above reproach.
- **FRIENDLY** – Slow and patient operating when requested; friendly advice and counsel to the beginner; kindly assistance, cooperation and consideration for the interests of others. These are the hallmarks of the amateur spirit.
- **BALANCED** – Radio is an avocation, never interfering with duties owed to family, job, school or community.
- **PATRIOTIC** – Station and skill always ready for service to country and community.

By using these suggestions and techniques, you'll be well on your way to enjoying HF operation!

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