

# THE eQRM



Spring Time is the time for antenna maintenance

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MARCH 2015

# THE eQRM

## Spring Time is the time for antenna maintenance

Check out the March QST annual antenna issue

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### CHECK IN TO THE NETS

Wednesday 2 Meter

8:30PM on 145.310 MHz

Wednesday 10 Meter

9:00PM on 28.470 MHz

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# Bulletins

## Hamfests & General Announcements

# Hamfest/Convention coming in the months ahead

04/11/2015 | MCARC HAMFEST

Location: Morgantown, WV

Type: ARRL Hamfest

Sponsor: Mon County Amateur Radio Club

Website: <http://www.qsl.net/k8mcr>

04/12/2015 | Two Rivers ARC Hamfest

Location: Boston (Elizabeth Twp), PA

Type: ARRL Hamfest

Sponsor: Two Rivers ARC of McKeesport, PA

Website: <http://www.trarc.net>

The BVARA would like to acknowledge :

Edward Detrick-Pittsburgh, Grant Miller II-Ambridge, Jack Keane-South Hills, John Athanassion-Aliquippa, John Halligan-George Town, Jeff Waite-Ambridge and Pamela Spencer-Baden.



All upgraded to General Class.

Also we welcome Edward Detrick and John Halligan as new members!

# This Month

## This month's feature presentation:

**Speaker: Rich Soltesz K3SOM**

### **Topic: Antenna Tuners**

Including:

Continuing with our BVARA Presentation Series this year, our topic this month builds on last month's topic by looking at Antenna Tuners. First we'll look at various circuits like T Networks, Pi Networks, and high-pass and low-pass L Networks. But what about tuner losses? Yes, we'll look at those too.

But wait, there's more:

We'll compare commercially available products – both manual and auto tuner models. Some club veterans will be along to provide their anecdotal experiences with several of these products. This is one exciting presentation you won't want to miss!

Rich's Background:

Extra Class Ham, Licensed since 1962, VE,  
B.S. Electrical Engineering



Photos courtesy of  
DX Engineering, Tallmadge, OH

# More this Month

## VE TEST SESSION

Beaver County Emergency Operations Center  
351 14th Street  
Ambridge, PA 15003

Tests begin 5PM Thursday, March 12th (walk-ins allowed).  
All classes of amateur radio license tests will be administered.

ALL candidates MUST bring ALL of the following:

1. 2 forms of I.D. - one MUST be a photo I.D.
2. A pencil AND a pen with blue or black ink.
3. The original AND a photocopy of any valid ham license.
4. The original AND a photocopy of any C.S.C.E.
5. The test fee of \$15 - cash, check, or money order.

For more information,  
contact: Richard Soltesz, K3SOM  
(724) 847-0610  
k3som@arrl.net

## WEEKLY

### Thursday Morning Breakfast

The BVARA meets every Thursday at Steak n Shake in Center Township, by the Beaver Valley Mall, at 10:00 AM. All area amateurs are encouraged to come join us at our Thursday morning breakfast.

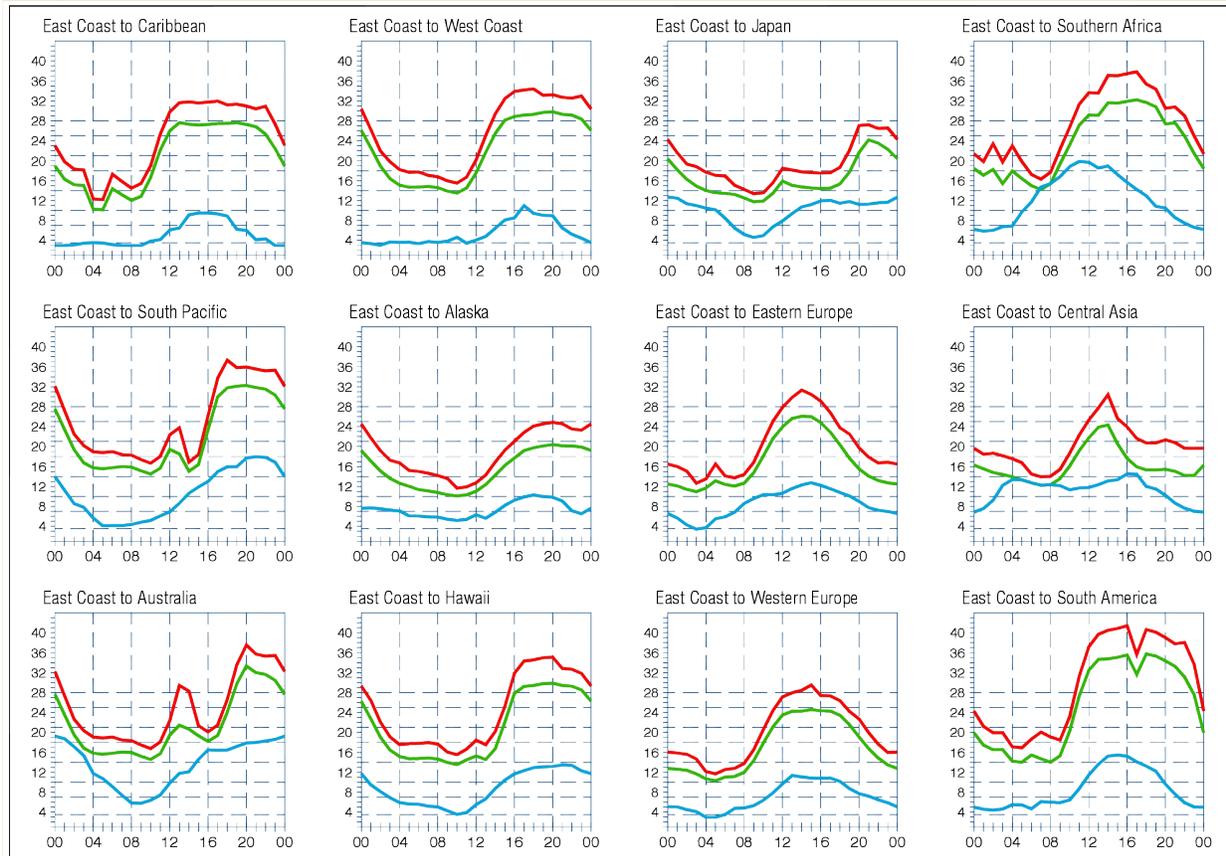


See you at Steak n Shake!



# Propagation Charts

From the ARRL



**When are the bands open?** These charts, generated using CAPman, show probabilities for average HF propagation in the month of **March** for the paths indicated. The horizontal axes show Coordinated Universal Time (UTC), and the vertical axes frequency in MHz. On 10% of the days of this period, the highest frequencies propagated will be at least as high as the upper red curves (HPF, highest possible frequency) and on 50% of the days they will be at least as high as the green curves (MUF, classical maximum usable frequency). The blue curves show the lowest usable frequency (LUF) for a 1500-W CW transmitter. For SSB or a lower transmitter power, the LUF will be somewhat higher than the blue curves indicate. See Oct 1994 *QST*, pp 27-30, and Feb 1995 *QST*, pp 34-36, for more details. The predictions assume an observed 2800-MHz solar flux value of 115. This is a **High** level of solar activity. See the detailed propagation tables on *The ARRL Antenna Book CD-ROM*.

## PROPAGATION

The East Coast propagation chart listed above is for March 2015. If you would like more information on how to read these charts, or for more information on propagation in general, please visit <http://arrl.org/propagation>

## RACES / ARES

eQRM Urges All County Hams to Participate

As a matter of editorial opinion, the eQRM urges all Beaver County licensed amateurs to participate in the County's RACES and ARES programs.

Any Beaver County Amateur that is interested in participating in the RACES/ARES programs can do so by checking into the Beaver County Public Service Net which meets every Monday evening at 8:30 PM local time on the N3TN 146.850 MHz repeater (131.8 PL)



# Propagation Prediction

VOACAP Online

VOACAP Online is an excellent, easy-to-use tool for hams to use that can provide helpful HF propagation predictions between any two points on the globe. By entering some basic information about your location and the target location, your output power and type of antenna as well as similar information for the target location, VOACAP predicts an hourly forecast of propagation probabilities from 10 to 80 meters in a color-coded circular format that is easy to interpret.

Let's start our 'tutorial' by looking at the 2015 7QAA DXpedition to Ngala Lodge on the shore of Lake Malawi that is currently planned to go into operation between March 11th and April 1st. Malawi is located in southeast Africa and is surrounded on three sides by Mozambique. Lake Malawi is quite long but the location has been determined with sufficient accuracy from information supplied by the DXpedition.

VOACAP Online is found at <http://www.voacap.com/prediction.html> and is very easy to use. A Google map is used to illustrate the two locations and the great circle path between them. In the first picture, the map shows the great-circle path with a distance of a little over 8,100 miles and a beam heading of 86 degrees. These points can be easily set by pull-down values in the second picture. For the Transmitter Site (red marker), Pittsburgh has been selected from the QTH pull-down. A three-element yagi at 33 feet has been selected as the antenna, the transceiver power level of 100 watts is chosen, and SSB has also been selected from the pull-down choices.

That's it for the Transmitter Site. At the Receiver Site (blue marker) the choices are even simpler. 7Q Malawi could have been chosen from the pull-down choices, but instead, the blue marker on the map was physically moved by dragging and dropping the marker at the exact location given on the DXpedition web site page. Now the only other choice is the antenna that will be used by the DXpedition. Many times this is just a guess so the choice of a tri-band beam at 33 feet is selected for them.

VOACAP works with the latest solar data as well as historical averaged information. From the propagation params section, the only parameter that was changed was the minimum takeoff angle. This value was changed from 0.1 to 3 degrees to perhaps be more realistic of the hilly terrain around Beaver County. That's all the entry information that is needed!

As we look at the third picture, concentric color rings show the probability of a successful contact for each ham band and by the time of day (UTC). For Daylight Savings Time, four hours must be subtracted from UTC time to obtain the local time. As you move the cursor over the "wheel of colors" you can easily see in the center the prediction percentage for the band and time of day underneath the cursor.

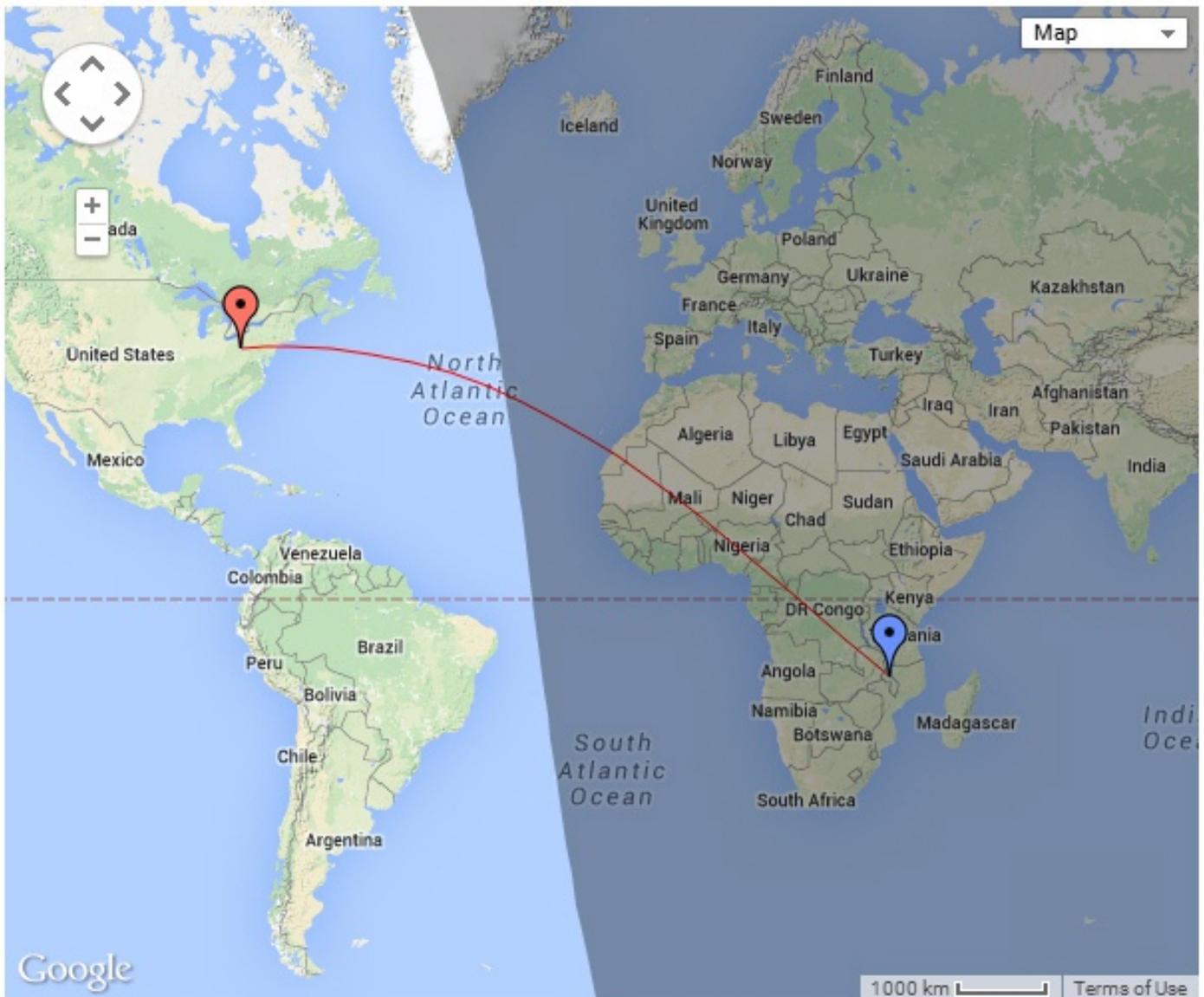
One strategy is to go for the times of day and bands that are colored red. Then try the orange, yellow, green, and then blue. If no propagation is possible, join a local ground wave net! In only five minutes, you can create a fairly accurate propagation forecast for that favorite DX target of yours.

By selecting 'Swap TX-RX' you can look at the reverse path. In a similar fashion, you can look at the propagation via long path and determine if that path is feasible for your antennas. Enjoy this free tool!

# Propagation Prediction

VOACAP Online

Picture 1



TX to RX:  km,  mi,  ° Year:  Month:

# Propagation Prediction

VOACAP Online

picture 2

TX to RX: 13255 km, 8236 mi, 86 ° Year: 2015 Month: March This

**Propagation Params**

Es: No Model: Auto  
 SSN: Min.TOA: 3 °

**Today's Sunrise/Sunset Times (UTC)**

	Transmitter		Receiver	
	Rise	Set	Rise	Set
GND	11:54	23:13	03:41	16:05
D	11:23	23:43	03:17	16:29
F	10:43	00:23	02:45	17:01

**Transmitter Site**

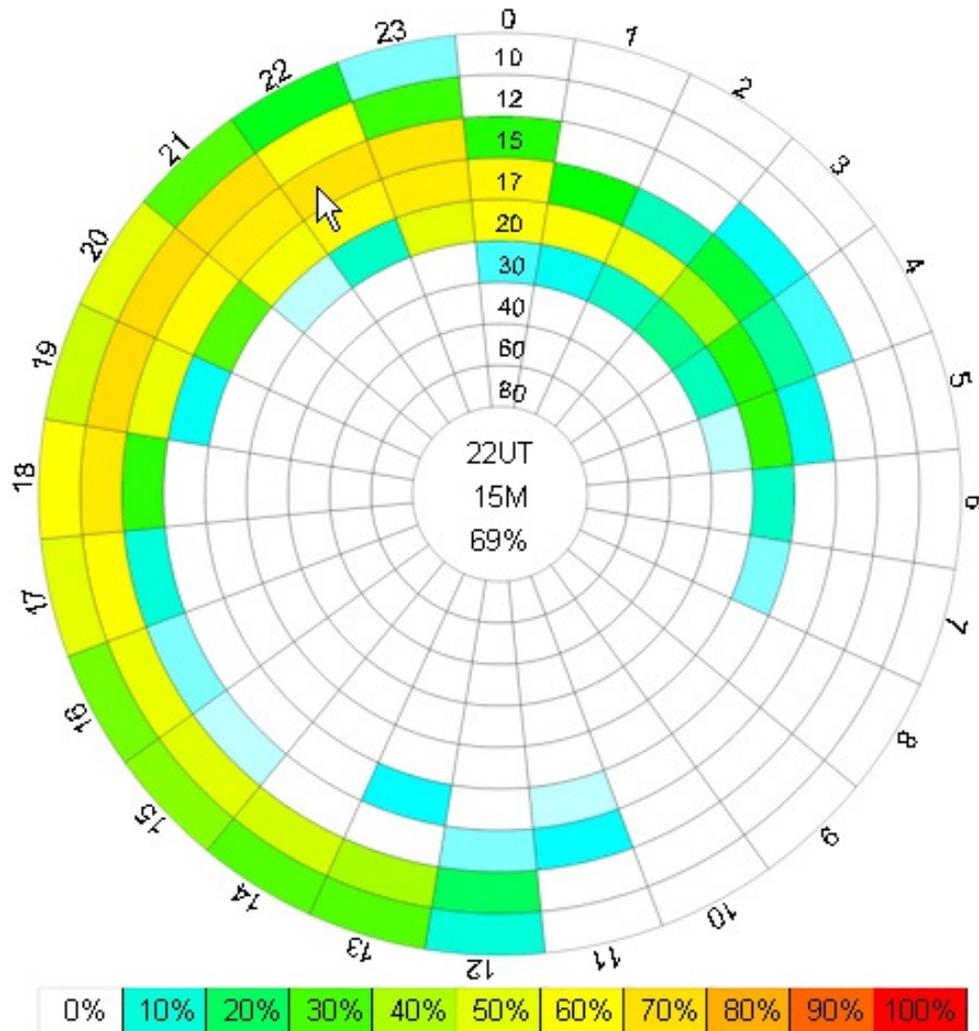
QTH: W Pittsburgh PA  
 Name: Pittsburgh PA  
 Latitude: 40.4000 Longitude: -80.0000  
 TX antenna: 3-el Yagi @ 10M (33ft)  
 TX power: 100 W  
 TX mode: SSB  
 Specials: Swap TX-RX  
 Current point: Set Home

**Receiver Site**

QTH: 7Q Malawi  
 Name: Malawi  
 Latitude: -15.7700 Longitude: 35.0000  
 RX antenna: 3-el Yagi @ 10M (33ft)

Run prediction!

picture 3



# Who We Are

## Membership Information and Club Officers



### 2015 BVARA OFFICERS

President: Jack Spencer, KZ3Z  
Vice President: Dick Hanna, K3VYY  
2nd Vice Pres.: Rob Miller, N3OJL  
Treasurer: Pam Spencer, W3PMS  
Secretary: Norm Trunick, K3NJT  
Director: Bob Winkle, N3AZZ  
Director: Jeff Waite, K3SLK  
Trustee: Rich Soltesz, K3SOM

### MONTHLY MEETINGS

E-Board meetings are now held the Saturday before the monthly club meeting.  
VE testing begins at 5:00.  
Regular meetings are at 6:30.

All meetings are held at  
Beaver County  
Emergency Operations Center  
351 14th Street  
Ambridge, PA 15003  
on the second Thursday of every month  
(unless otherwise stated).

### MEETING DATES 2015

March 12  
April 9  
May 14  
June 11  
July 9  
Aug 15 Corn Roast no meeting  
Sept 10  
Oct 8  
Nov 12  
Dec TBA Christmas Party no meeting



QSLCARD  
Special 90th Anniversary Edition

# Membership Information

By becoming a Member of the BVARA, You can help secure the future of Amateur Radio in Beaver County. Additionally, the BVARA receives a portion of each ARRL Membership you purchase!

## Join the BVARA and ARRL

Sign up for:	Price	Quantity
<input type="checkbox"/> BVARA FULL MEMBERSHIP	20.00	_____
<input type="checkbox"/> BVARA STUDENT MEMBERSHIP	15.00	_____
<input type="checkbox"/> BVARA ASSOCIATE MEMBERSHIP	10.00	_____
<input type="checkbox"/> CHILD UNDER 21 IN HOME	5.00	_____
<input type="checkbox"/> ONE YEAR ARRL MEMBERSHIP	39.00	_____
	DONATION	_____
ARRL MEMBER ?    YES    NO	TOTAL	_____

Your license class (If you have one)

<input type="checkbox"/> Technician	Name _____
<input type="checkbox"/> General	Address _____
<input type="checkbox"/> Advanced	_____
<input type="checkbox"/> Extra	Email _____
	Phone _____

Your Call sign \_\_\_\_\_ Exp.date \_\_\_\_\_

Your Signature \_\_\_\_\_

Make check or money order payable to:  
The Beaver Valley Amateur Radio Association, P.O. Box 424  
South Heights, Pa 15081

# New Discovery - SWR Grease

Newly declassified Government documents from 1947 describe the discovery of SWR Grease. The military intelligence agency wanted a way to use small antennas that could be easily hidden. Scientists and engineers studied the problem from 1942 to 1944 when they discovered this special formula.

Specially designed spy radios were built to work with this newly discovered grease. All that had to be done was to completely cover the transmitting antenna with the mixture before use. The conductivity, viscosity and lubricating properties of this grease caused the electrons to flow nearly uninhibited. This grease lowered SWR. This property of SWR lowering allowed use of only a three inch long antenna on frequencies from 20 MHz -70 MHz. This may seem like an incredible claim, however the documentation shows otherwise. One drawback was the constant touch-ups required before the next use. If one ran out of grease, the radio was of no use.



It was also discovered that radio waves leaving the transmitting antenna would speed up in air by incredible amounts. Because of the “RF skin effect” and the lubricating properties, the grease caused an increase in radio wave speed! This property enabled a slight encryption effect of the signal. The radio waves went so fast that they distorted into shorter wave lengths. The receiver had to be tuned thirteen Mhz higher than the transmit frequency to receive at these high speeds. This necessitated the receiver being switched off periodically because it overheated from receiving such fast radio wave signals.

Additional experimentation was performed, specifically, putting SWR grease on the receiving antenna. An unexpected side effect was found. It was discovered that if the receiving antenna had SWR Grease on it, this made the high speed radio waves come into the receiver too fast. The receiver would just simply burn up!

Much experimentation will be required by Radio Amateurs to determine the amount of grease to be used, the radio on & off cycle to prevent burn-up and many other factors. It has been suggested that today’s solid state radios may be able to have longer duty cycles and send radio waves out at even higher speeds than was previously possible with tube radios.

Below you can find information on how to get your own unmarked tube for experimentation. You must be a licensed Ham and have a sense of humor...

[www.spoofgrease.com](http://www.spoofgrease.com) ; -)



written by  
David KC3BXC

# Bits and Pieces



photo courtesy of  
Rich K3SOM

## March is here!

It has roared in like a lion with the snow here in Western Pennsylvania. With warmer weather in our future, our thoughts turn to antennas. We think of repairing, maintaining and installing new antennas for ourselves and others.

Safety! Safety! Safety!

Plan antenna maintenance before you do it. Safety. Stay away from power lines. Safety. If your antenna could fall or touch a power line, rethink your antenna location. Safety. Wear a hard hat. Safety. Wear protective eyewear. Safety. Wear a safety harness. Safety. Use a safety line. Safety. Invite some folks to come be your ground safety crew, extra help should be welcomed. Safety. Keep your tools from falling. Safety.

I hope you get the idea. Safety. Be careful and safe we want to hear you on the air in good health.

## Again, think Safety.



photo from  
Yahoo images

# Radio Sport

## Contests (for WAS awards)

March 7th and 8th is the ARRL International Phone DX Contest

March 14th and 15th is the Idaho QSO Party

March 15th and 16th is the Wisconsin QSO Party

March 21st and 22nd are the Oklahoma and Virginia QSO parties



See the Contest Corral page of QST for links to additional information about each contest

# Some interesting links

Ham Radio Classified Ads      <http://swap.qth.com/>

<http://www.eham.net/classifieds/>

Ham stuff & custom QSL cards      [http://www.dashtoons.com/K1NSS\\_Design.html](http://www.dashtoons.com/K1NSS_Design.html)

Pod cast for Hams      <http://www.soldersmoke.com/>

Ham video show      <http://twit.tv/show/ham-nation>

Ham show      <http://www.amateurlogic.com/blog/>

Space weather Dr. Tamitha Skov      <https://twitter.com/tamithaskov>

## The Amateur's Code

**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.