



The Monitor



February 2001

From the Prez:

This is a test of who reads the newsletter. Due to a scheduling conflict at Gillam's Restaurant the meeting this month will be held on Feb. 17th at 9:00am. This month we will have a brief on the UHF/VHF contest and plans for up coming contests. We will also be putting the final touches to the calendar on events for the year so if you know of anything not previous done please let us know.

73 de N5IEP

Upcoming Events

- TSRC Meeting Feb. 17th, 9:00am
Gillam's Restaurant, WRJ, VT
- TSRC Meeting Mar. 10th, 9:00am
Gillam's Restaurant, WRJ, VT
- TSRC Meeting Apr. 14th, 9:00am
Gillam's Restaurant, WRJ, VT

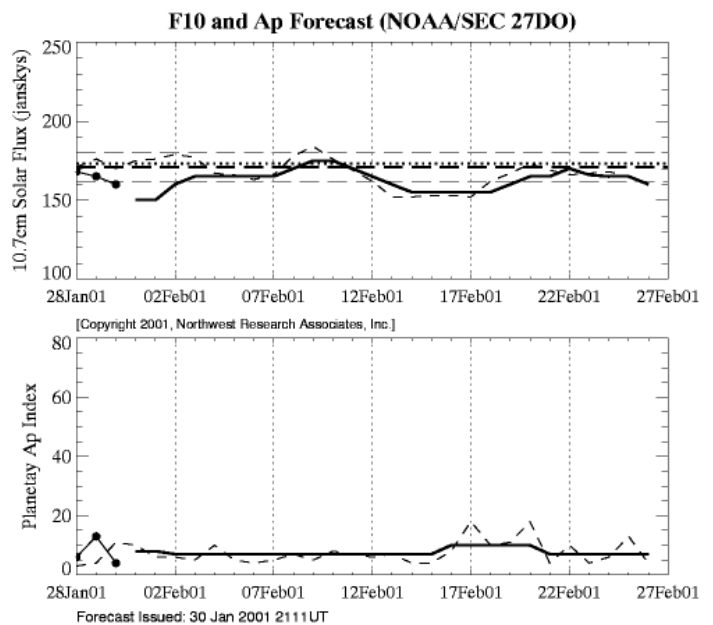
February Propagation Outlook

By AD5Q, edited by KI1B

Like winter temperatures, MUFs (Maximum Useable Frequencies) are at their lowest during January. This has moved evening hamming activity to lower frequencies, but the trend has just reversed. With the help of the higher solar fluxes, 20-meter nighttime paths will be reliable shortly. We are making the transition to springtime.

DAYTIME BANDS: Ten meters is not as spectacular in the spring as in the fall. Still, the band is loaded with DX. Morning openings to Europe have been very strong during January. There will be opportunities to work the difficult polar windows into Asia and the band will be wide open to nearly everywhere else. Enjoy now, because ten will only be good for another couple of months. Daytime MUFs start to drop in March and April, and that is the end of the party until fall. Fifteen meters is in good shape, and will begin staying open later in the evening. This will widen the windows on some of the more difficult paths, but the most interesting 15-meter propagation is still a few months away.

NIGHTTIME BANDS: Those of you that can't get a beam up can still have a lot of fun on 40 CW with a delta loop hung in a tree. You can start working DX about an hour before the sun goes down, and catch a nice sunrise peak for about an hour after sunrise. Eighty meters offers very interesting greyline opportunities into East Asia and the Pacific around local sunrise.



Solar & Geomagnetic Forecast

These plots show forecasts for the 10.7cm solar radio flux (F_{10}) and the planetary geomagnetic activity index (A_p) for the next 27 days (heavy solid lines). The light solid lines and filled circles at the start of each plot are the observed F_{10} and A_p for the past few days, and the light dashed lines show the observed F_{10} and A_p from the previous solar rotation. The three horizontal long-dash lines on the F_{10} plot indicate the mean (heavy line) and expected range (light lines below and above the heavy line) of F_{10} from the NOAA SEC long-range prediction for Solar Cycle 23. The single horizontal dotted line is the 90-day mean F_{10} flux for the preceding 90-day period.

Disclaimer

Opinions expressed in The Monitor are those of the individual authors and do not reflect the opinions or policies of The Twin State Radio Club, Inc.

TSRC Team Enters the ARRL 2001 VHF Sweepstakes!

As a result of earlier discussions on the air and at recent club meetings, we determined that there was a good level of interest in doing the ARRL VHF Sweepstakes event on January 20-21. The Burdens again offered their location in Strafford, VT for the activity. We have operated at this site for the previous two winter contests.



Setup began on Friday afternoon and the club trailer/tower, which was stored on site, was moved into position and the 6 M and 2 M antennas were installed. Some station setup was done on Friday and the bulk of the antenna and station installations were completed Saturday morning. We operated SSB and CW on 6M, 2M, 222 Mhz and 70 Cm. Dave KA1UAG also brought his portable 10Ghz setup, but we were not able to make any contacts this year as few other stations were on and some of the high ridges to the south and east made line-of-site operations unworkable.

The stations were setup in the garage workshop with plenty of heat and electricity! Participants included Ken KD1P, Dave KA1UAG, Verne N5IEP, Bill WB1BRE, Mill K1IB, Rex AA1KL, Dave N1HAC, Micky K1IH and Ken AC1H.

We operated from about 2PM (Start of the contest) on Saturday until about 2:30 PM on Sunday. The 6M and 2M antennas were on the club trailer/tower on a common rotor and the 70 Cm antenna was on a separate rotor attached to a ladder used as a makeshift tower. The 70Cm ant is a new one for KA1UAG and, by using a 100 wt amplifier and an antenna-mounted preamp, Dave was able to significantly increase the number of contacts over previous years and we were able to work stations from Pennsylvania to Quebec on both SSB and CW.

BUT— how was the food (you might ask)? Well, we had a turkey dinner Saturday night, courtesy of Dot KA1LDS, with potato salad and home-made rolls! And for lunch on Sunday, Dave KA1UAG provided his special chili! In spite of some concerns about how hot the chili might be, we found that the large crock pot was just about empty shortly after lunch began. Even Rex was reported to have consumed more than one serving!

As we wrapped things up Sunday afternoon, we agreed that this contest had been a significant improvement over previous years in terms of numbers of contacts and smoothness of the operation. There were no equipment failures, except for one of the logging computers acting up on Sunday morning. The weather certainly cooperated and made the outside work much easier. We talked about the possibility of doing the June VHF contest possibly operating on top of the hill with a generator.

Also, there was discussion of doing Field Day from the top of the hill sometime in the future, but that needs to be carefully considered in relation to the KUA site. The final tally on contacts and the submitted score are included here :

BAND	QSOs
6 M	58
2 M	75
222 Mhz	1
70 Cm	44
SUBMITTED SCORE- 10927	

Bill WB1BRE

Milton Hamfest and Other Activities

To all Vermont Amateur Radio Operators:

Winter is here, and with it, a whole bunch of amateur activities coming up. Here is some information on what's happening.

MILTON HAMFEST AND VERMONT STATE CONVENTION - FEB 24

The Milton Hamfest will be Saturday, February 24th, from 8am until 1pm at Milton High School, Route 7 Milton. This is also the ARRL Vermont Station Convention. Milton is 500+ hams and teckkie types and thousands of square feet of hamfest goodies for sale.

Milton is a wonderful educational experience as well. This year's special guest is Ed Hare W1RFI of the ARRL Technical Staff. His 9am forum is on tracking down and resolving the various form of Interference hams have to suffer with from computers, fax machines, modems, power lines etc. At 11:00, he will bring back his infamous Antenna forum, where he will build a 2-meter yagi out of pieces of copper pipe! New this year is the QRP Forum. Members of the Northern Vermont QRP Society will talk about QRP (low power) operations and various pieces of available QRP equipment. A QRP building session at a recent RANV meeting packed the room to capacity, so I know somewhere out there is interested! The Satellite Forum will offer some insight and information on the new AO-40 satellite and other programs sponsored by AMSAT.

The Contest Forum is back, along with the YCCC regional meeting. The ARRL Forum, headed up by Director Frenaye K1KI, will offer information and discussion on amateur radio and the ARRL.

Vendors who require time to set up their stuff can enter through the back entrance starting at 6:30am. The admission at this entrance is \$10. The main entrance will open at 8am and the admission remains \$3. There is still no charge for tables or for youngsters under 18. The VE Session at Milton will be at 9am and 1pm. Please bring 2 forms of ID, your Social Security number, pen, pencil, copy of license/CSCE and \$10. (Yes it went up!). Before you leave the house in the morning, please check that you have all of these items so everyone can be processed quickly. If you have questions, write to me at the above E-mail address, or call me at: (802)879-6589 during the day (10-2). For details on the Milton Hamfest, go to: <http://www.ranv.together.com/milton.html>

HAM CLASSES (Mar 17-18 & Mar 31/Apr 1)

Last Fall, the format for the Weekend Classes have changed. The class still covers two days, but there are various options: 1. TECHNICIAN CLASS (Saturday class only) 2. GENERAL CLASS (Saturday and Sunday) 3. GENERAL UPGRADE CLASS (Sunday only - for licensed Technicians)

Students must pre-enroll for class. A package of material is sent out which includes textbooks, workbooks and CW practice software. CW is not taught in class, but students are instructed on how to use the software to practice the 5 wpm code. The debut of the General course last fall was great - everyone received credit for the General written exam and a few have already passed the code exam.

The weekend classes will be March 17-18 in Burlington and March 31-April 1 in Manchester, NH. For details on the Weekend Technician Class, go to:

<http://www.ranv.together.com/weekend.html>.

For details on the General/Extra classes, contact W1SJ at: w1sj@arrl.net.

This summer, the Summer Technical Camps for youngsters, ages 10-14 will be offered. This is a program through the Lake Champlain Chamber of Commerce (LCCC) and it combines a day camp with Technical training in various areas. The ham radio camp is a 1 week program (July 16-20 tentative). Kids come out of the camp with a ham license, knowledge of radio, plus experiences of a lot of fun! Contact the LCCC now for details on this summer's program.

THE VERMONT AMATEUR RADIO DIRECTORY

The 2001 Vermont Amateur Radio Directory will be out in Milton. It has all the addresses, phone numbers and E-mail addresses on all Vermont amateur operators. It also has all the club info, repeater info and dealer info. It still costs \$5. Stop by the hamfest information table and pick up a copy for yourself and your friends. Addresses in the Directory come from the FCC database. Please take this time to check your

callbook listing. If your information is incorrect, let me know about it so I can make the corrections, AND also file a 605 form with the FCC and update your address.

I hope that something in all of this has been useful to everyone. I look forward to seeing all of you at these upcoming events.

73, Mitch Stern. W1SJ w1sj@arrl.net

NH House Bill 473-FN

To all NH Amateur Radio Operators:

I am co-sponsoring House Bill 473-FN along with Rep. Ralph Rosen, K1KM that will authorize special amateur radio license plates for NH motorists.

This bill will be heard in the House Transportation Committee, and has been released for introduction. The bill will have a PUBLIC HEARING at its introduction in Room 203 in the Legislative Office Building (the building directly behind the state capitol building) in Concord NH. The hearing will most likely be held on Tuesday, February 13, 2001. Check the House Calendar at <http://www.gencourt.state.nh.us/hcaljourns/> to confirm this date and time... as of this writing, the calendar has not yet been published, but this hearing will be held within the week.

This bill may be a difficult piece of legislation to get through unless we can muster up enough support from hams interested in obtaining these plates...this means that we need as many hams to attend this public hearing as possible. The Commissioner from the NH Dept of Safety is generally reluctant to approve of special license plates, but if there is enough support demonstrated for this bill, the committee may recommend approval. What really needs to be demonstrated is whether there will be enough of these plates sold to justify the start-up costs associated with it.

In short, the bill creates a special amateur radio plate that will cost \$30 upon initial application, and \$5 every year thereafter. Currently, vanity plates that many hams have already cost \$25 every time they are renewed. The plates will contain an identifying legend that is approved by the commissioner and a member of the amateur community.

The language of the bill is at:

<http://www.gencourt.state.nh.us/legislation/2001/hb0473.html>

To contact your NH State representative, Go to:

<http://www.gencourt.state.nh.us/ie/whosmyleg/>

E-mail addresses for NH Reps located at:

<http://www.gencourt.state.nh.us/house/members/email.asp>

Rep. Lawrence Artz, KA1CRN
Hillsborough District 34, Nashua
nashuarep@hotmail.com

How to Launch Antennas:

David Haseman - KE1IW

Safety (First):

Herein lies the most important aspect of launching antennas - SAFETY. In the rest of this short piece I will refer to safety issues first because it is so important.

Wear a hard hat. You are about to launch a heavy object, rock, arrow, or fishing sinker into the air and you really have no idea where it will come down, or how many ricochets it will achieve before heading your way. Your helpers need to wear hard hats, or stay away from your launch site a distance equal to your best throw/shot.

Remove watches and rings and other hand and wrist jewelry. You don't want to launch these valuable items into trees, or suffer the consequences if they try to ride along with the launched item. Broken and torn fingers and wrists are a REAL possibility.

1. Armstrong:

Well, the first method I have to offer is also the oldest method known.

Safety: Wear a hard hat. Watch the item until it stops moving. Make sure that NOBODY is "Down Range" from your launch site (standing in front of you).

Technique:

Select a good sized rock with sufficient weight to carry your chosen wire to the height you hope to achieve. I recommend that you find several rocks of the same size/weight. Select a tree with branches high enough get your antenna the desired height above ground.

Get everyone behind you. That rock is going to come down somewhere.

Practice: That's right. It may sound simple, but you'd be surprised how many folks will waste time with rocks and strings without a clue how high they can actually throw a rock.

Take the rock, without the line attached and throw it over the branch you're hoping to use for your antenna. Do this several times. This has several advantages: You will know if you're strong enough to chuck that rock high enough to get over the desired branch. If you can't get the rock over the branch without the line attached, you're not going to get it over with the line attached. You can hope for 20 to 30 feet at best but if that is what you need, you're done with practice.

I recommend fishing line over string for several reasons. Monofilament doesn't "Twirl" when pulled. It has a smooth surface so it will glide over the branch(es) as it falls to the ground. It comes in several tensile strengths and lots of folks have fishing line. You could have a helper hold your pole, pointed just above the branch you're throwing at. Make sure the line is released BEFORE you throw.

Preparation:

Tie the rock with a crossed tie - like a birthday present. Use helper fingers to hold the line at the tie until you have several knot securely in place.

Technique:

Okay, throw the rock. If you miss, and it comes back to you on a bounce, try again. Make sure that if you're using a fishing line on a pole arrangement, you keep some tension on the line as the line is reeled in.

Once you have the line over the branch, you can either: Pull your wire back across the branch, tie the antenna line to the line as it comes off your pole and pull more line off the spool as your helper pulls from the "Rock" end of the line. In either case you're nearly done.

2. Casting:

Safety:

Same as Armstrong. Keep people as far from you as you can cast a line with a heavy sinker. You'll need to make sure you have room to swing a fishing pole so take the pole to your launch site and see if you can swing the pole through the arc you'll use to cast the line.

Preparation:

Paint your sinker orange or Bright Red. It's a lot easier to see in the trees and on the ground. If the line is broken, you might actually find the weight if it's not grey. Attach the sinker to the line with a swivel clip.

Practice:

Practice is VERY important. Find a place to practice - an open field is good. Cast UP that may mean standing on a tailgate from a pickup truck so that you can get your pole's tip way down before casting up. Underhand is best - though I've heard some folks prefer overhand. In any case PRACTICE a bit to see what it looks like in a field before you try the cast into or out of the woods.

Technique:

This is nearly as old as throwing. It assumes that you know how to cast a line - as in fishing. Instead of a rock, you use a heavy lead sinker attached to the end of your fishing line with a clip. The clip is important. If you do finally get the weight back in hand, the clip can then be attached to the antenna without having to fiddle with knots.

Move into the woods, or better, cast from the field into the woods. High nearly vertical casts work best because the descending weight and line carry over fewer limbs which means less friction on the line from the pole to the weight.

3. Sling Shot:

Safety: Same as for Casting

Practice:

Get into an open field and shoot the weight and line nearly vertical and see how high it goes with line attached. Watch HOW it goes too. It's a lot easier to do all this shooting practice BEFORE you've got to contend with branches and briars, and ground cover. Remember: the first rule of being a forest is to thwart any human incursion. Ask any logger if you don't believe this is true.

Technique:

Use a heavy orange painted lead weight attached with a clip to fishing line on an open or closed spool. Oh I suppose you could lay line on the ground or even better lay the line on a flat blanket, or tarp, but the resistance offered as line spools off an open reel is hardly worth mentioning.

4. Arrow Shot:

Safety: You could kill someone with this technique. No Kidding! So, PLEASE wear a hard hat, and if you can tolerate it, a jacket - slows the blunt arrow down. You will need a heavy arrow, fiberglass fishing or a solid aluminum "Stump Thumper". Remove the original head by unscrewing it and replace it with a stove bolt. Put padding over the stove bolt and secure the padding with tape - Duct tape works very well here.

Preparation:

You're going to need a helper. Oh, you can do it by yourself, but it means attaching a fishing reel to the bow. I found a short pole to replace the counter weight on my compound bow in an archery store in Manchester, NH. It worked pretty well. notice that I used the past tense. The pole broke and the feedout wasn't good for long shots. I always use a helper (who also wears a hard hat). I recommend Ice Fishing line. I used to use monofilament, but that doesn't work as well as Ice Fishing line.

The arrow has a small hole just above the fletchings (plastic feathers - yes I know feathers are not plastic, but work with me on this okay?). Pull two to three inches of line through the hole and use electrical tape to attach the line in the following way:

Wrap one layer of tape around the arrow between the notch and the hole. Wrap the tape over the line as it comes to the arrow and then over the end you've pulled through. Lay the line back across the tape and wrap one more layer of tape over the end so that the line is taped at three sites. This technique comes from Mike Schmitt - N1MS - and it works flawlessly. The advantage to the taping is that if the arrow gets snarled with line in a tree. You can pull the line free and recover the arrow.

Technique:

Shoot OVER the tree. That's it. Shoot over the tree and not into it. That perfect branch is being protected by the tree whose first mission in life is to thwart your antenna launch. You want height, tree tops offer the best height. I recommend that you shoot from within the woods out into the field/yard/pond. This takes some moving back and forth, to and fro to find a shot that will carry over the tree but shooting this way decreases the chances of bouncing, snarled, or lost arrows.

Once my helper has found the arrow, have it detached from the ice fishing line. I attach a heavy "Spider Line" - 200lb test line and pull that back over the tree. Once I have the spider line safely across, I attach whatever I'm using to hoist the antenna into the air to the spider line and pull that back across. You could simply attach your "Pull line" to the fishing line; some folks do. It works so give that a try if you would like to take less time or don't have access to spider line.

5. Club Resources:

Mike Schmitt - N1MS and I (David Haseman - KE1IW) are folks who like to do arrow shots for club members. We both have shot lots of line over trees. We come with bow, arrow(s), and fishing line.

You need to have your own pull line on hand. You can get 200 pound test multifilament pull-line from the Yankee Electric Supply on the Miracle Mile near Split Ball Bearing. They will also sell you spools of 12 or 14 gauge insulated (several colors) multi-strand wire. I bought a spool of 500ft. They sell larger spools if you need them. Plan your wire antenna and then buy what you need. An 80 Meter loop antenna takes about 280 feet or so. A 160M half wave open loops uses about 270 feet.

For Sale

Kenwood 870, MC60 microphone, regular 870 mic

The rig has DSP at the IF stage, digitally adjusted filters to 50 Hz on CW 1400 Hz on SSB 100 memories, built in auto tuner, built in keyer, memory auto keyer.

The rig is in perfect working condition and is a non smoking rig. (Non smoking environment) Soft ware for rig controle via computer is included. \$1500.00

Index Labs QRP++ rig

All band HF QRP rig, CW and SSB modes, 5 watts output, built in keyer, digital display, Adjustable filters to 100 Hz CW, microphone, runs all day on a 7 ah battery. Qrp tuner (MFJ) goes with the rig. \$450.00

Alinco DR1200 2 meter rig.

This is primarily a packet radio, It does have a mic for repeater use and has about 15 memories, scan, dtmf, encode, decode, Call freq. 25 watts on High power, 1 watt on low power. \$150.00

Outbacker HF mobile antenna, 80 meters through 10 meters, four magnet mobile mount. \$100.00

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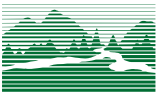
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