



# Radio Amateur News & Views

The Official Journal of the Radio Amateurs of Northern Vermont

FEBRUARY 2003

Vol. 13 No. 2

## INTERNET LINKING

### The February 11<sup>th</sup> RANV Meeting

Join us at the February 11<sup>th</sup> RANV meeting as we revisit Internet Radio Linking. Last year, Mike KB1FUV introduced us to the Internet Repeater Linking Project at the April meeting. We have had IRLP running on the repeater for 6 months now and many of us have had great QSO's on it and a lot of fun.

This month's meeting will have two goals. First, we will look at how to get the best use out of the IRLP system. We hope to let you in on some details and nifty tricks to make your linking more fun. Next, we will introduce the Echolink system. Echolink is another linking system, similar in nature to IRLP, but different in many respects. IRLP is a Linux based operating system used for linking repeaters. Echolink is a Windows based operating system, used for linking repeaters, links or users, right at their computers. Everyone has opinions of the various systems, but we will just give you the facts! The highlight of the evening will be an actual demonstration of IRLP and of Echolink, right in the meeting room. Your hosts for the Internet Linking evening will be Mike KB1FUV and Mitch W1SJ.

The meeting will start at 7 PM on Tuesday, February 11<sup>th</sup> at the O'Brien Civic Center, 113 Patchen Road, South Burlington. Pre-meeting festivities will be at Zach's on Williston Road starting around 6.

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## MILTON HAMFEST 2003

**The 21<sup>st</sup> annual Milton Hamfest will be Saturday, February 22<sup>nd</sup>, at Milton High School.**

Vermont's greatest ham radio show has everything the amateur operator, hobbyist and computer hacker would want: Priceless goodies, forums on the latest and greatest and services like exams and QSL checking. And, our biggest asset - 500 or so individuals looking for and talking about the same things you are!

With thousands of square feet of indoor flea market area and 100 tables available, we plan on having another great flea market. Some of the same vendors will be back - *Radio Bookstore*, *Radio Devices* and *Webster Associ-*

*ates*. Add to this a whole bunch of folks bringing their radio collections and emptying out their basements, and you have a lot of stuff to look at. Come on down and buy something. No need to worry about being overbid or having your computer crash while *E-bay* bidding! And the deals found at Milton are as good or better than anything found on line! Nothing beats getting out on the floor and fondling the merchandise.

For its size, Milton still offers the best forums program anywhere. And we add stuff each year!

The **QRP Forum** kicks things off at 8:30. Brian Riley, N1BQ and the *Northern Vermont QRP Society* will bring

Milton... continued on page 7

# OUR LAST RANV MEETING

by Bob KB1FRW

*KB1FRW checking in and filling in as secretary while Howie K2MME frolics in the snow in France.*

The meeting was on January 14<sup>th</sup>, with about 20 eager hams attending. Paul AA1SU moved (*seconded by Dave WIDEC*) to allocate \$60 for a RANV ad in the *Vermont Amateur Radio Directory*, with the motion passing unanimously. There was some discussion about the Milton Hamfest including the call for volunteers. Don, N1QKH moved (*seconded by Fred WA1LIE*) to allocate \$300 for up front hamfest expenses, which passed.

The main attraction, "Computers in the Hamshack" or actually "What can be done with a pre-Pentium computer and an amateur radio license" was given by Brian N1BQ.

Brian started out by giving a brief run down on the older computers that are available for a small outlay of cash. These include original Pentium and earlier machines, old laptops and even some specialty computers. A few notable things about laptops are their low power use and the ability to run with a 12 volt power source.

Some of the ham radio uses for a computer include: logging, CW sending, transceiver control, satellite tracking/rotor control, shack automation, data recording, and APRS programs. These programs are usually available in DOS.

Logging programs for ham radio use are multitudinous as a quick Internet search will reveal. Some of the popular ones are NA, CT and TR-Log. Some of these programs allow you to do other things besides logging, like transceiver and antenna control and CW sending. Some programs can be used for stand-alone CW operation.

Brian brought a sample of downloaded Internet articles, including, "How to make a practical rotor system", "Using a PC printer port for

# THE PREZ SEZ

by Brian N1BQ, President

The winter has been flying by. Most of us have been so busy closing doors, drawing shades, piling on blankets, and feeding hungry woodstoves during the current cold snap that we haven't been able to mark the passage of time.

Coming up in February, Mike KB1FUV and Mitch W1SJ will be talking in more depth about actually using the IRLP link we have for our 145.15 repeater, as well as other Internet/Ham Radio operations.

control and data acquisition" and "The APRS Touch-Tone Spec". These programs will allow you to track a satellite, run automation routines and send one-way message on the APRS system. The rotator plans showed you how to turn a Radio Shack rotor into a satellite tracker with about \$15 in parts. The computer's printer port, or parallel port can be used for interfacing the computer with the outside world for automation and control purposes, GW Basic is an easy language to program in parallel port control. The APRS Touch-Tone spec showed the DTMF messaging that can be used with the APRS system and a regular 2 meter radio with a DTMF mike.

Brian fired up some of the old laptops he had brought and showed some of these programs in action and let people try them out.

There are many other programs out there that can be used with an inexpensive computer in the ham radio environment; all you have to do is look around and you will be knee deep in programs that are ready to run and are useful. Have fun!

Near the end of the meeting Paul volunteered to bring the snacks for the next meeting and Richard moved to increase the reimbursement for snacks from \$12 per meeting to \$15 per meeting.

We then adjourned for snacks.

Milton hamfest is coming up soon on the last Saturday of the month, the 22<sup>nd</sup> of February. Help is needed at all levels. There will be setup on Friday afternoon and/or night. We need help manning the doors, taking admission fees and manning the club tables on Saturday. Contact Mitch if you can help.

A big round of thanks is in order to Mitch W1SJ, Bob KB1FRW, and Neal N1ZRA who braved -5 degree temperatures and high winds to put the new repeater in up on top of the mountain. It involved a cold snowmobile ride up carrying the heavy gear, followed by a long cold walk back down. This was certainly service way above and beyond the call of duty. If any of you question why they didn't wait a bit, please remember the weather forecast for the subsequent week or more was for even more severe cold!

See you at the Hamfest!

## Contacting RANV

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## CONTEST CORNER

by Paul AAISU

The results of the 2002 ARRL June VHF QSO Party are in. It appears that our own Mitch W1SJ (operating WB1GQR) has won Single Operator, Low Power! Congratulations to Mitch on this fine effort. He also led the nation in QSO totals on the 50,144, & 222 MHz bands. He did this atop Mt. Equinox in Southern Vermont. I think that more RANV members should try out VHF contesting this year. We have had meetings on the subject and it is something that any class of license can have fun with. Even if you just go to an elevated location and turn the squelch off on your mobile FM rig, you can snag a few QSOs and submit a log to the ARRL. The other Vermonters listed this year are Chip W1AIM, Larry K1LPS, and Frank KT1VT.

In the 2002 ARRL August UHF Contest, Mike N1JEZ once again put out a tremendous effort in the Rover category, finishing 5<sup>th</sup> in the country! Clarence N1UQT also of Burlington, submitted a log. Both of these great summertime contests require good equipment, skill, and preparation.

Here we go again! In the ARRL September VHF QSO Party, WB1GQR operated by Mitch W1SJ once again pounded out an outstanding effort, earning 3<sup>rd</sup> Place nationwide for Single Operator, Low Power. He won First Place for the New England Division. You'd think that some of this talent would rub off on us.

In the IARU HF World Championship held last July, I am encouraged to see more participation by Vermont Hams. This is one of my favorite contests, but I was unable to participate because of my part time job. RANV members Ron KK1L and Jeff N1YWB spent the weekend by the radio, as well as Jim N1BCL and Mill K1IB. Congratulations to both of you for putting Vermont (okay, Zone 8) on the air!

Looking ahead, there are a few nice contests to keep you warm by the radio. For those of you not really into contesting, the ARRL School Roundup is a weeklong effort to get new hams accustomed to the airwaves. Starting at 8 AM on Monday, and ending at 8 PM on Friday February 14<sup>th</sup>, this "Contest" helps to get new Ham Radio operators (in schools) over the initial fear of operating. Complete rules are on the ARRL web site. The exchange is RS(T), Class (Individual) and State.

On the weekend of February 14<sup>th</sup> and then February 28<sup>th</sup> is the ARRL International DX Contest. First is the CW contest and second is the phone version. The object is to work as many amateur stations in as many DXCC countries of the world as possible on 160-10 meters. The complete rules are in December QST, page 95. This is a good way to boost your DXCC totals. All of the DX has to work the US and as usual, Vermont will be very popular. Forty Meters at night is a good band to work into Europe. This is where it helps to know CW. On Phone, you will have to work split, and there will not be as many stations. Just for fun last year, I did the CW one as all 80-Meters: I didn't do too badly, either.

In between those two contests (on Milton Hamfest weekend, no less) is the CQ WW 160-Meter SSB Contest. Complete rules are on Page 97 of the January QST. The exchange is signal report and state. So I say, load up those bedsprings, and see whom you get. You may hear Europe, and at sunrise, Alaska and Hawaii. The rules are a little different this year. It is now a 48-hour contest starting at 7 PM on Friday, February 21<sup>st</sup>. This means that there will now be a little Sunday evening activity for the East coast.

Remember: on all stateside contests, put RANV on your summary sheet, and drop me an E-mail telling me that you participated in a contest. On DX contests, enter YCCC, if you are a member.

Next month, it's WPX-SSB! What's in YOUR prefix?

## HF ACTIVITIES

by Mitch W1SJ

A number of stations got on for various contests this past few weeks. This past weekend was the Vermont QSO Party. It was also the New Hampshire QSO Party, the Delaware QSO Party, the Minnesota QSO Party, the 10-10 International Contest, and North American Sprint.

Mitch, operating WB1GQR, was shooting to run up yet another glorious year of 2000+ QSO's in the Vermont QSO Party. This was not to be, as he ran smack into very bad propagation, likely caused by an aurora. The big opening to Europe on 10 meters was shorter than usual on Saturday, as the band didn't open until 9:30. Once open, it was great. Saturday afternoon had dizzying stateside rates on 20 meters, producing some very good first day totals. Ever know what it is like to hit a brick wall? That is what Sunday was like. Conditions were horrible as 10 and 15 were dead and 20 sounded like the attenuator was on. It was a clear case of Northern Ham's Burden - lousy conditions in the Northern Latitudes, but everyone down south doing great.

Howie K2MME teamed up with some buddies at his Windham County QTH and put W2DMC on the air for 250 QSO's.

Saturday evening, in the NA Sprint, Ron KK1L ran up a fine score 204 QSO's, following close behind was Mitch (194) and Grant K1KD (185).

A week earlier, Grant K1KD picked up 37K points low power in the CQWW 160 meter CW contest. Mitch W1SJ played for 2 hours to the tune of 26K points high power. Grant also reported 77k in the NAQP Contest held the week before that.

Scores of RANV members can be found in the Contesting section of the RANV Web site.

Except for the auroral disaster this weekend, conditions are still great. Ten meters is usually open wide every day. Use the bands now, because you never know when a geomagnetic disturbance or solar flare will shut you down!

# REPEATER NEWS

By Mitch WISJ

## New Repeater Installed!

The day we were all waiting for finally occurred. The new repeater equipment, which was being testing in Essex since late September, was installed on the mountain. The new system brought a small improvement in sensitivity, and a large improvement in power (*10 to 25 watts*) over the temporary system.

Last June, the repeater was hit by lightning, damaging not only our equipment, but doing thousands of dollars of damage to equipment at the ski area as well. A temporary repeater, consisting of a pair of commercial mobile radios was quickly shuttled up there to tide us over. No one expected this period to exceed 6 months! The damaged repeater equipment was repaired quickly enough, but it was decided to put a new system in place which would be more robust and easier to work on than the converted trunk mount mobile unit which was in place since 1994. Other refinements, such as a new controller, dual tone operation and audio delay were also incorporated. These improvements allow things like user tone decode of the transmit signal, better IRLP and link access and the ability to split the VHF and UHF repeaters when needed.

The day on the mountain was anything but routine – but that is always expected. The vehicle which was supposed to transport the repeater to the top broke down the day before and was in the shop. So, the repeater got to ride a sled, behind a snowmobile all the way up. It was a quick trip, except for the 2 minutes when the sled turned over! The trip up there is always filled with surprises and danger.

The new equipment was installed quickly. Our other job was to replace the connector between the end of the hardline and the antenna. This connector has been causing us headaches for over a year. Unfortunately, that job was postponed. With the temperature already a balmy -5 degrees F and winds howling at 30-40 MPH on the tower, connector work was not at all possible. The connector annoys us in two ways. When really bad, all signals, weak and strong get crackling noises on them. When moderately bad, the repeater receiver gets hit with 20 dB of desense. In layman's terms, that means that if you are normally just full quieting, you will become noisy. If you are normally noisy, you will go away. Fortunately, much of the time, all is working fine and the repeater can be worked from some incredible distances. There also is another annoying problem – the UHF transmitter takes its time coming up (*several seconds*) when it is very cold. This is something Spring will easily solve.

We offer our deepest thanks to N1ZRA and KB1FRW who braved cold conditions with me to do the install and past climbers KB1EMC, N1SRC, N1GZZ, N1ZUK, AA1SU, W1KR and N1JEZ. We are indebted to Tony WA2LRE who donated much of the radio equipment and put it together.

## Better Repeater Operating

We have a first class repeater system, which we have improved and will continue to improve. It is imperative to assure that the level of operating on the repeater is every bit as first class.

I make these comments while acknowledging that there are, and have been no problems about what transpires on the repeater. I want to make sure it stays that way. The repeater has gotten incredibly busy at times. This is great. On most repeaters, anywhere in the world, you can call until you are blue in the face before you reach someone. I also know that busy repeaters can quickly get ugly as well.

The first and foremost thing is to understand the goal or mission of the repeater: to retransmit the weak mobile and portable users who would otherwise not be heard. So, if you are at a base station and are using the repeater for a great deal of time during peak hours, you should evaluate your operating patterns to be consistent with the goal of a repeater.

Our prime mission as amateurs is to provide our ability and equipment to assist when needed. But, we never know the moment this is about to occur. This is why it is imperative that transmissions are kept relatively short and ample time is left between transmissions, allowing easy break in.

The very nature of FM repeater use requires quick transmissions and the ability to break in quickly. At times, there are emergency and priority situations which need to be processed immediately. People with short trips require the ability to get in and out of QSO's quickly. All of these situations require short transmissions. This is why the timeout timer is kept short. FCC rules require it to be no longer than 3 minutes. The old repeater ranged between 1.5-2 minutes. It is currently 1.75 minutes. The temporary repeater was set to the default 3 minutes. So, the timer has not been shortened. There have been discussions on how to "defeat" the timer to extend transmit time. Don't do this. Talk in shorter bursts. There is a 3-step way to do this: 1. have something useful to say, 2. organize your thoughts first, then speak, 3. keep transmission to 2-3 sentences maximum.

Leave breaks between transmissions! Some of us have not been. If you don't let the courtesy beep transmit, the timer won't reset and the next guy will likely time out. Or, if you constantly "shotgun" the repeater (*leaving the absolute minimum time*), you will find that you are often doubling with others. Leave a few seconds more between transmissions during the peak hours so that our many users can get in.

There is a recognized way to make a call on the repeater when it is in use. In those breaks between transmissions, simply say "Call". The stations in QSO will turn it over to the calling station immediately. If the communications require no more than a few transmissions, conduct the business on frequency. If the communications will tend to go on longer than this, switch to another channel, if possible. Otherwise, ask permission of the stations in QSO to use the repeater to complete your business. Never use the word "break" unless there is a serious situation.

I've rambled on enough here and timed out the newsletter time-out timer a few times, but I'm sure you all get the picture of where we need to be. Enjoy.

# MORE REPEATER NEWS

## IRLP Guidelines on WB1GQR

With the open access IRLP on the repeater, it is important that everyone who uses the system understand how it works. If you do something wrong, not only could you bother folks on our repeater, but also you can be a nuisance on a repeater a continent away! It is crucial that we remain good neighbors with all of the IRLP community.

First, read all of the information found at [www.irlp.net](http://www.irlp.net). In particular, read "Usage Guidelines" and "Active Node Status". The node status can be tailored to give a sorted list or a node map.

Before calling a node, look it up on the node status list. Usually, the frequency and offset of the node will be shown. If the offset is 0.00, then the node is a simplex node, likely at someone's house and likely to have limited range. If the node is a repeater, you won't be able to determine if the repeater is wide area coverage (*like ours*) or it is a repeater at someone's house. Or, you may also dial into a repeater network, consisting of many linked repeaters. Small systems will likely have few users, while big systems will often be busy during peak hours. Often the node status list will show a web site for the node. Look it up and do some homework. Pay attention to where the node is located. If you call a node in Europe at night, you will connect to them in the wee hours. Don't do this, unless you have a specific sked with someone. Likewise, calling the West Coast early in the morning will produce the same result.

The IRLP system on WB1GQR is open for incoming calls 24 hours a day, and for outgoing calls between 8 AM and 11 PM. If you have a reason to call outside of these hours, a control operator will have to dial for you. Make sure your IRLP QSO is completed by 11 PM, or you will turn into a pumpkin!

Do not attempt to access the IRLP system with a weak signal or with equipment which is not working properly. This means you have a full quieting signal and your audio and tones are clean and clear. If someone informs you otherwise, move to a better spot, or get your radio fixed before proceeding. The IRLP is capable of sounding great. Don't gum it up with a substandard signal.

To initiate an IRLP call, first give your callsign and wait 30 seconds. This is a check to see if someone else is in QSO on the repeater and perhaps left a long pause. When you are sure no one else is using the repeater, give you callsign again and dial the four-digit code. Saying your callsign here is crucial. If control operators hear unidentified tones on the repeater, they will assume that it is someone with negative intentions and they have been instructed to shut the repeater off. If this becomes a habit, the access to IRLP will be closed.

You will know if your IRLP access has been successful if the tail hangs on and identification for the distant node is heard. If you hear nothing, it means that the system could not decode your tones, the IRLP access is off or something is broke. If you hear, "The node attempt has timed out", it means that there is no Internet connection to the node you are trying. If 2 or 3 nodes give the same result, it means that our Internet connection is down. If you hear, "The node is in use locally", it means that there

is local traffic on the repeater and you will have to wait for them to take a break before connecting. If you hear, "The node is currently connected to ..." or a busy signal, it means that the distant node is connected somewhere else and you will have to wait for them to finish.

When you get a connection, wait 10 seconds after the announcement to allow the connection to complete. For each transmission you make, you must wait 2 seconds before proceeding and then wait 1 second AFTER pressing the mike. There is a delay of about a second from the time you start transmitting until the time your voice is actually processed by the Internet. If you don't leave the delay, the first few words of every transmission will be cut off. After waiting the 10 seconds, announce your callsign and location. If no answer, try again in a minute. If no answer after that, enter "73" to drop the network and then, identify. This is much like fishing. Sometimes you cast and get nothing on the hook!

But, finally someone does come back. It is important to have something to say! Don't just sit there and clear your throat and say, "uh, how's the weather there?" You can look that up on the Internet a lot easier! Carry on with your conversation, but remember to leave all of the proper pauses. When complete, drop the link and identify.

Never engage in a local conversation on our repeater while linked up to someone else. Having local conversations while linked is considered very rude. If someone needs to standby more than a minute, drop the link. There are activity timers on all nodes which will drop the links when there is 5 minutes or so of inactivity. This is a fail-safe feature for the system. Don't make a habit of using it.

From time to time, changes are made to the repeater or IRLP. You can track these changes on the **RANV** Web site by clicking "WB1GQR Repeater". When you perceive a problem on our IRLP node, contact Mike KB1FUV at [mike@mikebanks.com](mailto:mike@mikebanks.com). When you perceive a problem on the repeater, contact Mitch at [w1sj@arrl.net](mailto:w1sj@arrl.net).



**The WB1GQR repeater antenna coated with a thick layer of rime ice, making for treacherous winter maintenance**

# MY FIRST DXPEDITION

by Mitch W1SJ

I had an opportunity to visit Mort W1UQ at his southern QTH on St. Maarten, in the Caribbean. Mort is from the Boston area, and visits Vermont regularly, as all of his kids have graduated from the University of Vermont.

I thought about going down and operating during the ARRL DX Contest in March, but scheduling would have made this very difficult. So, Debbie W1DEB and I headed down in early January, and got to miss all of the wonderful snow and frigid temperatures for a week. Radio operating was a secondary concern on this trip, but I was able to get in about 3 hours of HF pileups and more hours of 2-meter yakking, as we toured about the island. I ended up taking only the 2 HT's and chargers. Airport security asked why I had TWO walkie-talkies, and I told them that I used them to keep track of my wife. Hey, it's the truth!

St. Maarten is 1900 miles SSE from Vermont, 1100 miles from Florida and 120 East of the Virgin Islands. This small island is divided into 2 DXCC countries. The southern end is called *Sint Maarten*, ham prefix PJ7 and is part of the Dutch Netherlands Antilles, ruled from Curacao. The northern end is called *Saint Martin*, ham prefix FS and is part of the French West Indies, ruled from Guadeloupe. The government, post office and money are all different on each side. Luckily, the border is fully open and everyone takes dollars. However, it was a bit confusing buying fuel, priced at 1.12 guilders per liter. After doing the math, I realized I was being held up to the tune of \$2.40 a gallon!

The island is only 7 miles across, but it is very mountainous, with the highest point, Paradise Peak, hitting 1391 feet above sea level. On top of this peak was the 146.76 PJ7R repeater. It covered the entire island to an HT, except for a shadowed area to the Southwest. It has since moved to another site, and another repeater is in its place on the summit. More importantly, the repeater is tied to IRLP node 5830, which allows worldwide communications with an HT. The PJ7R repeater is normally quiet. Staying next door to us was VE3KR. Klaus has single-handedly installed about a dozen IRLP repeaters and nodes in several DX countries. Needless to say, between the two of us, the repeater saw more use in a week than it probably does in a year! Not only that, but the activity attracted more of the local ham population on the nearby islands. So, we got to talk to stations in VP2E Anguilla, (10 miles), V2 Antigua (120 miles) and even J3 Dominica (210 miles). A repeater on a large rock in the ocean has some terrific range!

The HT hung on my belt (*or bathing suit*) all week. I only had to remember to put it away before going into the ocean! There is nothing like dialing up Vermont on the IRLP and hearing about a 15" snowfall at home while lying on a white sand beach. It made my day! In between my calls, Klaus was dialing up home in Toronto and dialing up other friends all over the Caribbean on the IRLP.

The HF operating was done in quick spurts, in between other activities. I was on as PJ7/W1SJ from Mort's home station and also from the guest apartment in town where Klaus was staying. I had some nice pileups and runs on Saturday and Monday evening into the U.S. On Tuesday, I visited the repeater site, which has a ham shack as well and came on as FS/W1SJ. This run was quieter, because it was a weekday afternoon, but I did pick up lots of DX. There is no comparison between the great conditions in the Caribbean and the weird conditions we get in New England. I write this during the last hours of the Vermont QSO Party, where auroral conditions have wiped out any attempts to work many stations. Meanwhile, I hear stations down in the Caribbean operating like nothing is wrong! No wonder most serious contest operations go south to the islands!

# HAM CLASSES

by Mitch W1SJ

The next Weekend Amateur Radio Class will be on March 22-23<sup>rd</sup> in Essex Junction. The class is actually 3 classes rolled into one. Of the greatest interest to our readers who have Technician licenses is the **General Upgrade Class**. This is held on Sunday. Upon pre-enrollment (*required*), you receive a course book, work book and CW software. Specific readings and exercises get you ready for the one-day class. Exams are given at the end of class (6pm).

For potential new hams, the Weekend Class has two options. For students just wanting to get a taste of amateur radio without jumping in totally, the **Technician Class** on Saturday is just the right ticket! Exams are given at the end of this class also. For students who plan to operate on the HF bands, the full weekend **General Class** might be the best option. They would then attend the Technician class on Saturday, take the Technician exam on Saturday night, come back on Sunday for the General and take the General exam on Sunday night. Then, they spend a few weeks learning the code and they have the valuable General license. Pre-enrollment is required for all courses and a package of the appropriate study material is sent out prior to class.

Growth in Amateur Radio is still slow. In Vermont, we get few new amateurs and they hardly offset the many hams who don't renew or move away. While Vermont is growing slowing, many states continue to show a net loss of hams. If we continue to lose licensees other services will try to grab our frequencies.

It is OUR JOB to recruit new amateurs. By sharing our excitement and love of amateur radio, others will be excited about it. Get your friends interested and have them consider taking the class, or getting study material.

For information on the weekend class, contact Mitch at w1sj@arrl.net or at 879-6589.

**Milton... continued from page 1**

back their QRP Road show on everything you ever wanted to know about QRP operation. Special guest this year is Dave Bentsen, K1SWL, founder and chief designer for *Small Wonder Labs*, a manufacturer of QRP equipment.

At 9:30 Ed Hare, W1RFI will host the **Antenna Building Forum**. He will attempt to solder lengths of plumbing together to make a working 2-meter beam. Come see if it really works, and if we have to call the Fire Department.

The **ARRL Forum** will be held at 10:00. New England Vice Division Director Mike Raisbek K1TWF and Vermont Section Manager Paul Gayet AA1SU will moderate. The forum will consist of news about amateur radio and the ARRL, followed by a discussion and questions.

At 10:30 is the **Microwave Forum**. The topic is "How to Get on 10 GHz Without Breaking the Bank." Henry KT1J is back this year with helpers N1JEZ and KA1LEX to show you how to build simple Gunplexer transceivers to actually make contacts on microwave.

Ed Hare, W1RFI comes back at 11:00 for the **RFI Forum**. He will talk about "Interference to Hams - The OTHER RFI". What are those strange signals we are hearing across the ham bands? Is it true you can work DX with your fax machine? How do you find these culprits and how do you get them stopped? Ed will have all the answers!

The **Yankee Clipper Contest Club Forum** will start at 11:30 and will be hosted by YCCC area coordinator

RonRossi, KK1L. YCCC President Chris Terkla, N1XS will give a presentation on RTTY contesting from superstation K1TTT. Ron will give a talk on "Contesting on the Cheap" for those of you aspiring contesters with limited budgets. If you ever had an interest in finding out more about how DXing and contesting really operate, be sure to stop by.

Finally, at 12 Noon we will present the **Vintage Radio Forum**, hosted by Mike Crestohl, W1RC and assisted by KA1KAQ and K1MVP. They will speak about collecting and restoring older "vintage" radios. This year's topic will be "High Voltage Power Supplies".

**Volunteer Exam Sessions** will be offered twice during the hamfest, at 9 AM and 1 PM sharp. Candidates are reminded to bring a copy of their license, CSCE, pen, pencil and \$12 (*cash only*) exam fee. Commercial exams will also be offered in the afternoon session. Contact Mitch W1SJ.

Milton will have QSL card Field Checkers available to check your DXCC or VUCC cards without having to mail them to the ARRL. Consult the ARRL Web site or contact W1SJ for details.

Finally, and most important, we need help! Volunteers are needed to staff the entrance doorways, to staff the club information table and to help set up on Friday night. You don't get paid, you don't get free admission and you don't get a free lunch. But, volunteering is fun!

<b>NORTHERN VERMONT</b>		
<b>WINTER HAMFEST</b>		
<b>ARRL VERMONT STATE CONVENTION</b>		
<b>MILTON, VERMONT</b>		
<b>SATURDAY, FEBRUARY 22, 2003</b>		
<b>NOW IN ITS 21<sup>ST</sup> GREAT YEAR!</b>		
<b>NEW ENGLAND'S BEST AND BIGGEST WINTER HAM RADIO SHOW!</b>		
<b>FLEA MARKET</b>	<b>FORUMS</b>	<b>ACTIVITIES</b>
<p>100 Tables of Goodies!                  New and Used Radio Sales                  Book Sales at Radio Bookstore                  Vermont Amateur Radio Directory                  Connectors, radios, computers                  Tables FREE while they last</p>	<p>8:30 QRP Forum                  9:30 Antenna Building Forum                  10:00 ARRL Forum                  10:30 Microwave Forum                  11:00 RFI Forum                  11:30 Contest Form                  12:00 Vintage Radio Forum</p>	<p>VE Sessions 9am &amp; 1pm                  Commercial Exams 1pm                  RANV Information Table                  ARRL QSL Card Checking                  Coffee, Donuts &amp; Sandwiches                  Hundreds of Eyeball QSO's</p>
<b>ADMISSION ONLY \$3 UNDER 18 FREE</b>		
<p><b>TALK-IN:</b>                  WB1GQR 145.15- Rptr                  W1NVT 146.67 Beacon</p>	<p><b>DIRECTIONS:</b>                  MILTON HIGH SCHOOL, ROUTE 7                  I-89 Exit 17, Route 7 NORTH 4 Miles                  I-89 Exit 18, Route 7 SOUTH 5 Miles</p>	<p><b>FOR MORE INFO:</b>                  Mitch: (802) 879-6589                  w1sj@arrl.net  <a href="http://www.ranv.org">http://www.ranv.org</a></p>

**NEXT MEETING:  
“Internet Linking”  
Tuesday, February 11<sup>th</sup>, 7pm  
O’Brien Civic Center**

**MILTON HAMFEST  
VERMONT STATE CONVENTION  
Saturday, February 22<sup>nd</sup>, 8am - 1pm  
Milton High School**

**RANV**

P.O. Box 9392

South Burlington, Vt 05407

**<http://www.RANV.org>**