



Radio Amateur News & Views

The Official Journal of the Radio Amateurs of Northern Vermont

FEBRUARY 2001

10 Great Years of RANV

Vol. 11 No. 2

BORDER PATROL COMMUNICATIONS

The February 13th RANV Meeting

We have a real treat in store for you at the February meeting. Our guest will be **Al Willett N1DRO**, who works for the United States Border Patrol. He will be speaking about some of the communications and electronics they use to monitor the International border. Joining him will be **Mark Pynduss KB1EWA** who will talk about the detection sensors they use and **Ross McCart KB6GCS** who will relate some war stories. Some of the stuff they work with is a linked repeater system with 15 repeaters, remote controlled cameras and microwave relays. They also plan to bring some of the goodies for all to see. It should be a really informative evening!

Don't forget, the pre-meeting activities start at Zach's at 6pm. The meeting will start at 7pm and will be held at the O'Brien Civic Center, 113 Patchen Road, South Burlington. See you there!

IN THIS ISSUE...

Milton Hamfest 2001

Contest Corner

Ham Classes

RANV in QST

CTE Open House

Microwave Record

Welcome to RANV

Prez Sez

MILTON HAMFEST 2001

The Northern Vermont Winter Hamfest

The ARRL Vermont State Convention

The Milton Hamfest or, just plain, **Miltuhh**

Call it what you like, but just be there! The Hamfest will be Saturday, February 24th at Milton High School.

The Vermont Ham Radio community's indisputable cure for cabin fever has everything the amateur operator, hobbyist and computer hacker would want: Lots of priceless goodies, forums on the latest and greatest and services like exams. And, our biggest asset - 500 or so like-minded individuals looking for and talking about the same things you are!

With thousands of square feet of indoor flea market area and truckloads of tables available, we plan on having another great flea market. Some of the folks who plan to be there: *Radio Bookstore*, *Radio Devices* and *Webster Associates*. There is still talk of a booth with *Ham Central* and *Radio Shack*. 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. Now, I've heard some of you say that you needn't attend a hamfest since you can buy anything you want on *E-bay*. Nothing can be further from the truth! The deals you get at the fest are much better than the on-line auctions. Both are valuable methods to collect toys. But, nothing beats getting out on the floor and fondling the merchandise.

For its size, Milton offers the best forums program anywhere. Once again we have a great lineup and you shouldn't miss some of these. Our special guest this year is **Ed Hare W1RFI** of the ARRL Headquarters staff. As his callsign indicates, he is involved in Radio Frequency Interference. RFI is something which is bothering amateur operators more and more with the proliferation of computers, modems, printers, fax machines, power lines, you name it. You will want to make sure you get the hamfest early to catch his 9:00 forum on locating and fixing RFI to amateurs. Ed comes back for another forum at 11:00 on building a 2-meter yagi from standard plumb-

Milton - continued on Page 5

OUR LAST RANV MEETING

by Grant K1KD, Sec'y

The January monthly RANV meeting was called to order at 7:15pm on Tuesday, January 8, 2001 at the O'Brien Civic Center. The first few minutes of the meeting were spent admiring some electronic projects that were built by some of the club members. **Bob WE1U** showed off his Elecraft K1 and K2 QRP rigs and **Brian N1BQ** passed around a PSK31 "Wabblers" 80 meter kit by the New Jersey QRP club. Speaking of QRP, there will be a QRP forum at the Milton Hamfest on February 24th.

Approximately 25 people were in attendance at the meeting. They unanimously voted on a motion to spend \$60 for a full-page club advertisement in the *Vermont Amateur Radio Directory*. We also voted to donate \$170 worth of ham radio related books to the *Center of Technology in Essex* (CTE) under the care of **Joe K2KBT**. We hope these donations will serve our community and promote club and ham radio awareness. These books will supplement other ham-related books we have donated to various libraries around the area in the past.

Our president, **Paul AA1SU**, explained the ARRL Club Competition rules, and encouraged our club involvement. The grand prize is \$1000 donated to the club. On a related note, when renewing ARRL membership, we are reminded to pay through RANV. By paying ARRL membership dues through RANV, a portion of the money is kept within the club.

The Vermont QSO party is coming up on the first weekend in February. Operators are welcome to participate from the home of **Bob WJ1Z** in Jericho.

The feature presentation of the meeting was given by **David W1KR** on *Squiggley Antennas*. Generally, the idea behind designing a squiggley antenna is to reduce the physical size while maintaining an acceptable level of performance. The simple rubber duck antenna is a good example of a quarter wavelength wire antenna coiled to fit in a much smaller space. David also showed us a *Hamstick* antenna which is the same idea but for the lower bands. Then, he showed us some of his homemade stuff. He expanded on the *Hamstick* design by creating his own antenna using heavier wire for a middle-loading coil. This antenna had a higher Q, which is less lossy, but has a narrower bandwidth. David also showed a "screwdriver" antenna, a W6AAQ design, which uses an electric cordless screwdriver to twist a center-loaded coil. This twisting action adjusts the resonance of the antenna so that tuning can be done on the fly! He showed us some other antennas that used braided rope and magnetic wire helically wound around it. Finally, he even had an example of a slinky antenna that works on 40 meters!

THE PREZ SEZ

by Paul AA1SU, President

We need to shake off some of these winter doldrums, and cabin fever. What better way to do that, than to attend the Northern Vermont Winter Hamfest. As you can see by the write up in this newsletter, it promises to be the highlight of the month, and a great way to greet your local ham radio friends, face to face. This year, there are plans to have a young hams table and QRP table to help promote those segments of the hobby. So, be sure to come to Milton for the "Best Little Hamfest in the World."

Our club attendance at the monthly meetings has been absolutely great. We have had over 20 people in attendance for the past several months. The great topics are certainly bringing you in, and we have more of them in store for you. Also, as **Mitch W1SJ** pointed out in his January editorial, ham radio is experiencing a rebound. More of us are joining the hobby, and we are all finding more stuff to keep us busy and interested. More members are coming forth with ideas and presentations for the meetings, too. This is a tremendous help, so keep at it guys and gals. The other officers and I look forward to serving you as the year progresses. Please continue to attend the meetings, and don't forget to support the Hamfest. Paying volunteers are still needed.

Contacting RANV

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O'Brien Civic Center
113 Patchen Rd, SBurlington
Milton Hamfest, February 24

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Please send submissions for newsletter to the editor, W1SJ.

CONTEST CORNER

by Paul AA1SU

Here's hoping that most of you had a lot of fun operating the recently held *Vermont QSO Party*. It is nice to get Vermont on the air. Let's see what is in store for the next few weekends.

We start it off with an odd one and an old one. The *Novice Roundup* has been bought back by the *FISTS CW Club*. It starts at 7 PM on Sunday, February 11, and ends Tuesday, 7 PM. All contacts must be made in the Novice portion of the band. Exchange is call sign, name, RST, license class, and QTH.

On February 16-18, there is the *ARRL DX CW Contest*. State-side stations send signal report and state. DX stations send signal report and power in watts (*1000 watts is sent in CW as K*). We work DX countries, while DX only works states (*Alaska and Hawaii become countries for this one*). Score one point per QSO, and the multipliers are DXCC countries worked per band. This is a great contest for working on your DXCC Award.

For those of you new to the hobby, I will explain DXCC. DX means a distant station, always outside of the country. CC stands for Century Club, as in the number 100. So, if you work 100 countries, work on getting the QSL Cards. The cards can then be checked at the League or at a major hamfest for the coveted DXCC Award. There are currently 333 countries listed on the DXCC list. You need to be a League member to qualify for the award. The awards program was created to encourage hams to build better stations, make more QSOs, and have fun.

Moving on to the last weekend of the month, there is the Milton Hamfest which, of course, takes priority over the contests. The largest of the six contests that weekend is the *CQ Worldwide 160 Meter SSB Contest*. This is a fun contest to play in the night before and after the fest – if you have the strength!

During the first weekend in March, is the *ARRL DX Phone Contest*. This is similar to the CW contest, except that on 40 Meters, you will need to work in what we call "Split Mode Operation." The foreign countries only have phone privileges in our CW portion of the 7 MHz band. It works like this: they call CQ low in the band, and say where they are listening. You then call them on their "Listen" frequency, higher up in the band. You will need a radio that has dual VFOs.

On the weekend of March 10, there are no interesting contests to report. This sounds strange, coming from me, I know.

Next month: The winner of this contest wins a trip to Bermuda to pick up the award!

WEEKEND HF ACTIVITIES

A number of stations got on for various contests this past weekend and took advantage of excellent conditions. **N1BQ** and crew operated the FYBO contest, a QRP contest which gives multipliers for how cold it is at the operating point. Their 81 contacts, coupled with the frigid weather gave them one of the highest scores. Nine-year old **Leela KB1EZZ** made her first cw contact! In the Vermont QSO Party, **Paul AA1SU** collected 424 QSO's and 57K points for an excellent showing. **Mitch**, operating **WB1GQR**, broke his previous high score with 2045 QSOs, 77 countries and 325K points. **Ron KK1L** was active in the NA Sprint and banged out several hundred contacts in 4-hours.

HAM CLASSES

by Mitch W1SJ

The next Weekend Amateur Radio Class will be on March 17-18th 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). If you have the 5 word per minute code credit, you are in excellent shape, as you only need to pass the 35-question General exam. Otherwise, practicing for the 5 word per minute CW test can either be done with the software before class, or after class, at a later date. It is recommended for most students to work on the CW practice after class.

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 and a ticket to worldwide communications. Pre-enrollment is required for all courses and a package of the appropriate study material is sent out prior to class.

I still will repeat the same line I say each year. To be a viable entity, amateur radio needs to show growth, and you and I are the people directly responsible for making that happen. It's not the ARRL's or FCC's job; it's OUR JOB. Amateur radio grew by a paltry 1% last year and will likely show a loss this year for a variety of reasons. By sharing our excitement and love of amateur radio, others will be infected with the radio bug. It sounds weird to relate this to a disease, but that is really how it works! Get your friends interested and have them consider taking the class, or getting study material.

If you are a Technician, upgrading to General couldn't be easier now. If you have that desire to talk to far away lands, consider upgrading to General or Extra class this year. A large part of amateur radio is education. It always gets more interesting when you are learning new things.

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

RANV HITS IN QST

by Paul AA1SU

While looking through the February 2001 QST, I came across the mention of a few RANV members. On page 107, you will find the QRP Power column. In it, our own **Brian N1BQ** and **Fran KM1Z** are noted for their gallant efforts to put the Appalachian Trail on the air with QRP. The article mentions a web page and the newly added QRP reflector that Brian tells me keeps him quite busy. Then, kind of hidden on page 113, we find our own local Six Meter maniac **Fred N1ZUK**. In the VHF/UHF Century Club Awards listings, Fred is shown as obtaining another 100 Grid Squares on the Magic Band. This brings his total confirmed to 200. This is no easy task on this band, and he should be very proud of this accomplishment.

Moving on to page 128, RANV member and Vermont Section Manager **Bob WE1U**, has his usual Section News paragraph where he makes mention of RANV and our 145.15 repeater antenna work. If you look carefully, you will also see **Buzz KB1EPQ** and **Dave W1DEC** included in the Traffic Report. Good work on passing that traffic, guys.

Of course, you certainly cannot (*nor should not*) miss the top of page 109, which has a write-up on the infamous *Vermont State Convention* in Milton, Vermont!

If you, as a reader, find a RANV member featured in a Ham Radio magazine, be sure to E-mail me at aa1su@arrl.net. The great thing about this newsletter, is that it covers our local ham radio activities. If the rest of the world gets to read about us, it is worth noting here.

OPEN HOUSE AT CTE

by Paul AA1SU

On Saturday, February 17th there will be an open house at the *Center For Technology at Essex* (CTE), at the Essex Junction High School. RANV member **Joe K2KBT** is the Telecommunications teacher there, and he has turned out several new hams over the years. The open house hours are from 10 AM until 2 PM. The school club station W1CTE will be available for visitors to make contacts from. Joe will be there to show off the station and to answer any questions from the visitors. And, get this – munchies will be provided!

As a special bonus, your president will make a special appearance on behalf of the club to present the package of books from the ARRL. This is the Library Collection that we voted on at the January club meeting to donate to the CTE. It is a collection of 16 books that covers many facets of ham radio. The set includes license, microwave, operating, antenna, Morse code, satellite, and RFI manuals, as well as the newest handbook, tech books, and a novel. So, be sure to drop on by and say hi to Joe and check the place out.

Welcome To RANV

Bob KB1FRW of Richmond has been interested in ham radio for a long time. He finally studied and got the Technician ticket last year.

Grant K1KD of South Burlington ex-N0ICI, operated Field Day with us in 1999 and joined up as our Secretary. Look for his meeting column each month.

Bill KB1FUW and **Wendy KB1FUU** of Charlotte attended the weekend class in the spring and passed the General written exam. They are learning CW in preparation for some serious off-shore sailing.

David KB1FVA of Colchester also passed the General written exam in the spring and is close to taking his CW exam. David has a new HT and has been heard on the repeater.

Colin KB1GBF of Jericho, joins dad Jeff W1RL and brother Alex KB1ETX in ham radio.

Sheldon KC1MP of Starksboro is a returning *Charter* RANV member going way back to 1991!

Tom KB1FMV of Essex received his Technician license last year.

Paul WA2ASQ of North Haledon, NJ is our 2nd New Jersey member! He often vacations in Burlington and hopes to relocate here. He is an active CW contester!

MICROWAVE RECORD

Our Virginia correspondent, **Brian WA1ZMS**, is at it again, almost doubling his previous 145 GHz record of 34 km set in November to 61.6 Km (about 38 miles). This breaks the world record for this microwave band.

On Jan 1st, at 23:22z, Brian, operating as W2SZ/4 from 4200-foot Apple Orchard Mountain worked WA4RTS/4 near Lynchburg. Chilly temperatures, around 15 degrees on the mountain, played havoc with some of the equipment.

Some changes to the feed system of one dish gave the extra signal margin needed to extend the record. The addition of Rubidium standards to each station also helped by practically eliminating any frequency error.

We congratulate Brian on yet another technical and operating milestone. The only question which remains is what the heck he was doing on top of a frigid mountain on New Year's Day. The fact that a straight key was used might indicate he was operating in the Rover category of Straight Key Night!

Milton – continued from Page 1

ing. Before your very eyes, Ed will solder lengths of copper pipe together and build a working antenna which will be tested. He also mentioned something about setting his tie on fire with the torch; details on this are sketchy. You will just have to see what happens!

Also at 9, **John Grow, VE2EQL** will give a talk on *Near Vertical Incident Antennas (NVIS)*. These antennas have been used by the military for many years and promise to bring benefits to amateur communications.

At 9:30, we debut a brand new event, the QRP Forum. Hosted by **Brian N1BQ** and the *Northern Vermont QRP Society (NVTQS)*, this forum will present everything you ever wanted to know about QRP operation and then some. At this is being written, the QRP guys are participating in the *Freeze Your Butt Off* QRP competition out in the balmy 0-degree temperatures on Brian's deck. They will have stories of that adventure and of the Appalachian Trail QRP operation. They will also have a few people doing presentations on some of the popular QRP radios, such as *Elecraft* and *Norcal* and will have hand-outs and literature on several of these. Sounds like one heck of a time. And all of this done at 10 watts of power or less!

At 10:00 will be the *Satellite Forum*, hosted by **Mike N1JEZ**. It is hard to say exactly what will transpire at the forum due to the changing status of the new AO-40 satellite. We can say that there will be plenty of information presented and some hands-on demonstrations will take place before and after the forum.

The *ARRL Forum* will be held at 10:30. New England Division Director **Tom Frenaye K1KI** will be joined by Vice-Director **Mike Raisbek K1TWF** and Vermont Section Manager **Bob DeVarney WE1U**. The first part of the forum will consist of news about amateur radio and the ARRL. The remainder of the forum will be a discussion and question period. While we can read about most news on the Web, nothing beats a live discussion!

The *Contest Forum* and *Yankee Clipper Contest Club Meeting* will start at 11:30 and will be hosted by YCCC president **Don Toman K2KQ**. There will be a number of topics of interest to contesters and DXers, including a slide/video presentation. If you ever had an interest in finding out more about how DXing and contesting really operate, be sure to stop by this 2-hour forum

Once again, Volunteer Exam Sessions will be offered twice during the hamfest, at 9 AM and 1 PM sharp. The location has been moved from the Library to a classroom just beyond the forum rooms. Candidates are reminded to bring a copy of license, CSCE, pen, pencil and \$10 (*cash only*) exam fee. Commercial exams will also be offered in the afternoon session. Contact **Mitch W1SJ** for details.

Finally, and most important, we need help! Milton has gone beyond being a 2-person operation. 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 even get a free lunch. But, volunteering makes you feel oh, so good, and besides, it's fun.

NORTHERN VERMONT		
WINTER HAMFEST		
ARRL VERMONT STATE CONVENTION		
MILTON, VERMONT		
SATURDAY, FEBRUARY 24, 2001		
NOW IN ITS 19TH GREAT YEAR!		
NEW ENGLAND'S BEST AND BIGGEST WINTER HAM RADIO SHOW!		
FLEA MARKET	FORUMS	ACTIVITIES
100+ Tables of Goodies! New and Used Radio Sales Book Sales at Radio Bookstore Connectors, radios, computers Tables FREE while they last	9:00 RF Interference 9:00 NVIS Antennas 9:30 QRP Forum 10:00 Satellite Forum 10:30 ARRL Forum 11:00 Build a Yagi 11:30 Contest Forum	VE Sessions 9am & 1pm Commercial Exams 1pm RANV Information Table Coffee, Donuts & Sandwiches Hundreds of Eyeball QSO's
ADMISSION ONLY \$3 UNDER 18 FREE		
TALK-IN: WB1GQR 145.15- Rptr W1NVT 146.67 Beacon	DIRECTIONS: MILTON HIGH SCHOOL, ROUTE 7 I-89 Exit 17, Route 7 NORTH 4 Miles I-89 Exit 18, Route 7 SOUTH 5 Miles	FOR MORE INFO: Mitch: (802) 879-6589 w1sj@arrl.net http://www.ranv.together.com

**NEXT MEETING:
“Border Patrol Communcations”
Tuesday, February 13th, 7pm
O’Brien Civic Center**

**MILTON HAMFEST
VERMONT STATE CONVENTION
Saturday, February 24th, 8am - 1pm
Milton High School**

RANV

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