



Radio Amateur News & Views

The Official Journal of the Radio Amateurs of Northern Vermont

JULY 2000

Vol. 10 No. 7

SUMMER RADIO TUNE-UP CLINIC The July 11th RANV Meeting

Join us for our annual radio tune-up clinic meeting. The goal is simple. At the meeting we will have various pieces of test equipment to measure the performance of amateur radio equipment. First, we will start outside checking out mobile installations. Power output, antenna SWR, voltage supply and other measurements are possible on both VHF and HF equipment. When the mobiles are all done, we will go inside and check out radios on the bench. Bob WE1U will have a truckload of equipment to make all sorts of measurements.

As a special treat, Bob has also agreed to bring some radio kits he is working on. He will have a completed and working Elecraft K2 for demonstration as well as another identical unit which is in the process of being built. Brian N1BQ will be bringing along the Small Wonder Labs "White Mountain 20", a 20 meter 5 watt SSB transceiver kit, which should be about 50% complete.

So, make sure you bring stuff to measure or show and tell. Or if you don't have any stuff, come on down and maybe you'll want to buy some after seeing all the neat kits. The meeting is preceded by dinner at Zack's Pizza on Williston Road, starting at 6pm. The meeting starts 7pm sharp at the O'Brien Civic Center, 113 Patchen Road, South Burlington.

SUMMER PICNIC

Join us on Saturday, August 5th for the RANV Summer Picnic at Knight's Point State Park in North Hero. Festivities get underway around 11am and run into late afternoon. Be sure to bring: something to grill, other munchies and implements, radios, antennas, bathing suit, towel, sunglasses and whatever picnic stuff you need. RANV will supply the price of admission, soda and charcoal. We are also inviting our friends from Burlington ARC and St. Albans ARC to join us, so do pass the word.

Why Knight's Point State Park? The unofficial reason given is that it is down the street from Richard WN1HJW and it is his opportunity to have a short drive! However, over the years, we have found it to be the ideal spot, in rare Grand Isle County. Even on hot days, there tends to be a nice breeze (*sometimes gale force*) which cools everyone down and makes for some interesting times grilling. To get to the park, take Route 2 through South Hero and Grand Isle. After you cross the bridge onto North Hero island (*you'll probably get stuck waiting for a boat to go by*), make a quick left turn into the park. Tell them you are from RANV and you're in. Please bring plastic bags for garbage (*no cans in the park*) and leave Fido home, since they don't allow dogs.

FOXY STUFF

By Mitch W1SJ

It seems like a reoccurring theme at RANV Fox Hunts is, "let's set up this antenna to fool Mitch." Yeah, I've dealt with foxy foxes before, and it usually doesn't work! When asked why fox N1IRO hid in some unheard of place in Richmond, he mentioned that it produced a sharp null toward Essex Junction! While I took 30-45 minutes longer than normal, this was more the result of picking the wrong road (*I should have taken 117 instead of 2A!*) and my pigheaded notion that the fox had to be in some impossible place like the south end of Huntington. The two beam headings I took all night were both right on the money.

It looked likely that someone else was going to win this hunt. When the Fox called the role at 8pm, everyone was nearby in Richmond and I was off sightseeing near Camel's Hump. From what I can gather, close-in DFing is still something that most hunters have problems with. So, while the other hunters circled around the fox for hours, I was able to get retracked and drive up to him.

At press time, I haven't received the official results and times from the fox, but I remember it goes something like this: W1SJ 8:30, AA1SU 9:15, N1PEC 10:00, N1YWB 10:15, K2MME 10:15.

The next hunt will be Friday, August 11th at 7pm on 145.15 with yours truly hiding somewhere. I am also looking to have a foot fox hunt at the picnic. If you are coming, bring your DF stuff!

OUR LAST RANV MEETING

by Fred N1ZUK, Sec'y

Another good turnout was on hand for the June RANV meeting. After introductions, and a volunteer found to bring the snacks for the next meeting, discussion turned to the planning of the club effort for this year's Field Day. Discussed were the tasks that would need to be done, and whom would be available for them. Voted and passed was a proposal to buy a portable tower to replace the ladder that is rented for the Field Day CW station antenna. Also discussed was the repair of the 145.15 WB1GQR repeater, which had once again had been found to have its fiberglass antenna destroyed by the elements atop the mountain. Although the antenna has been replaced with a similar model, further investigation is to take place for a more permanent solution.

Tom W1EAT was our guest speaker for the meeting. He brought along his gear to demonstrate PSK31, which is the newest digital mode to hit the amateur airwaves. Tom showed that with a computer equipped with a sound card, software that can be downloaded for free from the Internet, a transceiver, and a few simple instructions to assemble cables, you can be on the air with PSK31. Much has been written lately about this new mode, and it seems that quite a few hams have been embracing it (*it was even commented that more operators have been found in the PSK31 segment than the CW segment recently*).

PSK31 benefits by having a very good signal to noise ratio, thus allowing it to be copied even when the signal is inaudible from the speaker. This is due to its narrow bandwidth. Operating with this mode is quite simple. Tom demonstrated the *DigiPan* software, which is your typical Windows "point and click" software interface. There is a graphical

Another successful Field Day is behind us, and what a fun job it was. It was hard to keep 2 HF stations and the 3 freebie stations on the air for 24 hours straight, but we did it. Thank you to all who helped with set-up, operating, cooking, and tear down. We could not have done it without you.

Problem solving experiences learned at Field Day help us with our ham radio hobby throughout the year. This also bleeds over to our everyday life, in ways that we don't even think of. Each year that we participate is a learning experience, so I hope that the newcomers to this year's event like Dave W1DEC and others will continue to involve themselves with this incredible ham radio event.

Now for the "Special Thank You" department. Thank you to Fred N1ZUK for bringing his APRS station for us to view as an alternative mode station. It was fun to see all of the other stations on the air, right there on the screen. Thank you to Richard WN1HJW and Karen for slaving over a hot grill to keep us fed and quenched. Thank you to Neal N1ZRA who made three visits from 50 miles distant and was involved with setup, break down and other logistics. Thank you to Kristin AA1SK for buying the food and pre-

paring some great cold salads. Thank you to Jeff N1YWB for holding back his CSCE, earned at the Milton Hamfest VE session, so that he could operate the Novice station. Thank you to Mercy N1YTB for helping wherever she could in setup and traffic generation. Thank you to Dave W1DEC for accepting, and passing on, our traffic. It was a crash course in a specialty mode that he was already interested in. Thank you to Brian N1BQ for dropping by with food, drinks, and moral support. To all of our operators and friends that dropped by we say thank you. But, most of all, we say thank you to Mitch W1SJ, who provided most of the antennas, tents, and knowledge for this event. An excellent phone operator, Mitch really knows how to rack up the points at Field Day.

I am really looking forward to our next meeting because, as usual, so much can be learned from it. The tune up clinic is always enlightening, and having some actual radio kits on hand should be most educational and fun! I look forward to seeing you all there.

display at the bottom of the screen, which is referred to as a "waterfall" pattern. As it scrolls down, yellow lines representing the received signals are displayed. You click on one of these lines, and the text can be read in the receive window.

Although it originally hit the HF bands, some operators are now using it on 6 and 2 Meters. I had an opportunity to try it out on 6-Meters (50.290 MHz is the unofficial PSK31 calling frequency), and was able to copy both stateside and DX stations.

THE PREZ SEZ

by Paul AA1SU, President

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Contacting RANV

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By Radio: 145.15 repeater
By E-mail: w1sj@arrl.net
WW Web: <http://www.ranv.together.com>

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Please send submissions for newsletter to the editor, W1SJ.

GETTING ON THE AIR ON SIX METERS - Part II

By Fred NIZUK

Even with the best transceiver and amplifier, to get your signal on the air you need an antenna. Last time we talked about radios, transverters, and amps, so now it's time to discuss your antenna system. There are many options here, and judging from the equipment listed on many of the QSL cards I've received, hams are trying most of them. Dipoles, yagis, log periodics, verticals, and loops all seem to be getting the job done. But which is the best for you?

By far, the most common 6-meter antenna in use is the yagi. With gain and directivity, it allows you to point your signal at the station you want to work. Yagis on 6-meters are about the size of a TV antenna. A 3-element yagi is only about 6 feet long, with a 5-element about twice as long. Both of these can be successfully mounted on a standard lightweight television antenna rotator, so they can be aimed in the desired direction. Some of the big guns have two or more antennas stacked each with 10 or more elements! This dramatically increases the expense and size of the antenna system, and though it helps when conditions are poor, is unnecessary when the band is open.

A log periodic antenna is basically a yagi antenna, with a shape similar to the conventional yagi. It looks like a standard TV antenna (*which is a log periodic array*). I haven't tried one personally, but many have had good results with them. It's benefits include a wide bandwidth (*more on that later*). Since its appearance closely resembles a TV antenna, it may be an advantage in radio unfriendly neighborhoods.

If you can't erect a visible antenna, there are still several options. First, there's the dipole. Built with a light gauge wire in a neutral color, it is nearly invisible. Another choice is a horizontal loop, which looks like a small, aluminum hoola-hoop. Both are omnidirectional antennas, radi-

ating their signal equally well in all directions. Either can be mounted in an attic, just above the roof line, or up in the trees. True to all antennas, the higher you put them, the better they will work. When the conditions are marginal, you may find that these antennas less than ideal.

Another choice is using a vertical antenna. Although SSB and CW work is normally horizontally polarized, once your signal bounces off the E or F layer, it comes back down to Earth with its polarization skewed every which way. I used one for a while (*a Cushcraft Ringo, hanging from a tree branch 60 feet up*), and it was quite effective. What it lacks is in local (direct) signal strength, due to the cross polarization of the signal. Count on being three or more S units lower than a horizontally polarized antenna.

One type of antenna that I feel doesn't get its due respect is the delta and quad beam. I've worked many stations with a two-element delta loop, which was held up with string between some of the trees in my yard. With its pattern and gain rivaling a 3-element yagi, it provides a low cost, low visible profile. Basically it is a couple of loops of wire held separate with a spreader, I left it fixed towards the southwest. I worked over 100 grids in the first year that it's been up.

There are a couple of issues to keep in mind when completing your antenna system. First, use good feedline, especially if the run to your antenna is 50 or more feet. Though not as bad as in the higher frequencies, at 50 MHz feedline losses begin to add up. Use a solid dielectric RG-213 or RG-8 coax, or better. Skip the coax that has a foam dielectric. As it ages, the foam loses its shape, and the losses increase.

Also, make sure your antenna is resonant on the right frequency. Although the 6 meter band runs from 50-54 MHz, the active SSB/CW por-

tion is only from 50.100 to 50.200. Best bet is to have your antenna tuned around 50.140, putting you squarely where the action is. If you also want to work FM, I suggest a second antenna, as it's difficult to design an antenna that will work well over a 4 MHz frequency range at 50 MHz.

Last time, I offered that when the band was open, you could work it with a piece of wet string. Being as busy as I've been, I haven't had a chance to try it yet. What I did get to try was almost as interesting. After putting up my yagi, I was eager to test it out with the friend who helped me out. When he got home, he gave me a call on the calling frequency. To my dismay, I only could pull him out with a S4 signal, no matter where I pointed the antenna. He's only 4 miles from my house! My heart fell. Then I noticed that I still had the dummy load switched in. Switching to the new yagi, a S9+40 signal was my reward. His reward? Another QSO towards his WAD certificate (*Worked All Dummies*).

PACKET MANUAL

Some of you may remember some packet articles that we published by Bill N2FNH a couple of years ago. These are archived on the RANV web site, and deal primarily with gateway hopping. I stumbled upon a web site which has a complete Packet Radio Manual available for downloading. It has 16 chapters and a table of contents. It is very thorough and covers all aspects of the mode. I recommend that you obtain this manual and keep it on hand as a reference. You can find the manual at: <http://www.cybertechworld.com>.

Whether you are experienced at packet, or you never even heard of the Internet, these are two great ham radio tools. --AA1SU

FIELD DAY 2000

By Mitch WISJ

After grabbing the #1 spot in the 2A Field Day category last year and posting one of the highest scores in the country, the RANV Field Day team was not content to rest on their laurels for the new millennium. After seeing how other Field Day groups use surplus military masts to hoist antennas, an 11th hour decision was made to purchase such a mast and redo the antenna system at the CW station. The work preceding Field Day weekend was substantial. This included investigation, analysis, discussion, learning, purchase, practice, engineering and re-engineering. Hey, this is what we do to have fun, isn't it? The new antenna support system raised the tribander from 36 to 52 feet and took the top of the 40-meter delta loop and 80 meter dipole to 65 feet from 50 and 35 feet respectively. What was the result of all this? First, we didn't have to beg, borrow, steal or rent a ladder and outfit the same with hoisting pulleys. Second, while propagation makes it hard to tell the effects on QSO rates due to antenna changes, we can't ignore CW QSO rates in the 70's and 80's per hour and a new record number of CW contacts for our group this year.

Engineering was also put into good use to allow for a more quicker, safer erection of the phone tower. Each year this exercise degenerates into a mess of twisted guy ropes. This year, we used knowledge from previous years, put our thinking caps on and it all went much smoother.

The other major change was different housing for the CW station, where we traded in the hot, sticky vinyl tent for an old-fashioned, cooler canvas tent. Sometimes, modern technology doesn't get it done!

So how did we do? The first thing everyone will want to do is to compare to last year's numbers or the year before. Seasoned testers know that such comparisons are

meaningless since conditions change so much each year. Last year produced openings on 15, 10 and 6 meters better than I have ever seen in 30 years of doing Field Day. It may be another 30 years before we see anything like that again! If we look at numbers going back to 1984 when this group started at our present location, we still have one of the best years we have ever had. Unfortunately, propagation wasn't tremendous. On 20 meters, conditions were only good to fair. We got lots of 1-hop skip to 8 and 9 land and a good amount of 2-hop openings to the west coast. The southern part of the country, particularly Florida and Texas were conspicu-

ous by their absence. The big disappointment was 15 meters. We rely on the band to pick up the slack when we have virtually worked everyone on 20. On phone, 15 only produced a hour or two of "crumbs" – weak 6's and 7's who would fade in and out and certainly not sustain a good rate for very long. In fact, we used 40 meters more this year than in past years to make up the slack. Meanwhile, the CW station had tremendous hours on 20 and very good hours on 15 during the day. Go figure.

The Novice station produced around 250 contacts – certainly a real lot. However, many feel disappointed when this is compared to the 750 we made last year. Forget that – it's history. Be glad we made the 250 (*most of which was worked in a 4 hour opening*). Some years we don't make any contacts on 10 meters. When 10 meters didn't produce, Jeff was very effective in putting those valuable CW contacts in the log on 80 and 40 meters.

Over at the VHF station, things were slow. Old reliable 6 meters managed to open before and after Field Day, but not much during it. Most contacts were local. When you add several bonuses which we used the VHF station to acquire, this station didn't do all that bad.

Field Day is like managing a ball team. You have to make sure that you have operator coverage 24 hours and support coverage (generators, food, etc.) for much of the time as well. This year was a struggle with losing operators for various reasons. Tom W1EAT got pulled out to pick up family in Montreal. He was replaced by Howie, K2MME, a veteran from the W2DMC Crystal Radio Club operations in Rockland County, New York. He provided 5 hours of solid operating in the evening and morning, joining with other CW ops Doug AB1T, Brian WA1LIR and Paul AA1SU.

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FIELD DAY BOX SCORE

80 CW	187	80 SSB	440
40 CW	451	40 SSB	265
20 CW	394	20 SSB	1035
15 CW	171	15 SSB	75
10 CW	6		
Nov CW	23	Nov Ph	243
VHF CW	1	VHF Ph	68
Sat CW	0	Sat Ph	4
Total CW	1233	Total Ph	2130

Total QSO's	3363
Total Bonuses	1100
Total Points	10294

Previous year's contact totals:

99 CW	1209	99 Ph	1815
98 CW	1100	98 Ph	2674
97 CW	1089	97 Ph	1773
96 CW	963	96 Ph	1775
95 CW	998	95 Ph	2445

The Crew:

Phone: W1SJ K1HD KC1WH N1ZUK
CW: WA1LIR AA1SU K2MME AB1T
Novice: N1YWB
VHF: N1SRC AA1SK
Staff: W1DEC N1ZRA K2KBT WN1HJW
KAREN
Visitors: W1DEB, N1BQ, N1COB,
WA1LIE, KB1EPT, W1RC, KA1RF,
Pfenning family, varous family members

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Staffing phone was even more difficult. Grant N0ICI (K1KD), who provided tremendous numbers last year, went off to get married! John N2YHK decided to go out with a group in Massachusetts. That left only Ted K1HD and me to manage the unmanageable throngs on 20 meters. Carl KC1WH, a veteran of past RANV Field Days was pulled in to provide night and morning relief. Fred N1ZUK who was supposed to operate 6 meters (dead) and help out on 10 meters (mostly dead), asked to jump in on 80 meters and ran up 100 QSOs in an hour. He was instantly pressed into wee-hour morning relief status!

At the Novice station, finding operators from now on will always be a challenge. Our prime Novice operator Pepi KA1VLH "graduated" to General, putting him out of the Novice station. JEFF N1YWB, who operated last year, ably managed the Novice station this year. The disappointment was that no one else (except N1ZUK) sat in and tried to operate to gain skills. Jeff will graduate to General soon, meaning we have to find someone with a Technician Plus license who wants to operate 10 meters. With Technician Plus licensees upgrading to General, this is one of the big challenges for us in coming years.

Our operator corps was rounded out by Eric N1SRC and Kristin AA1SK who kept the VHF station humming along. The satellite station made a few contacts, but with some equipment problems and operators needed elsewhere, it became a low priority.

Field Day rules allow bonus points for various activities. We picked up 200 points for running 100% emergency power. An article in the Essex Reporter satisfied the bonus for media publicity. The location, literally right on a busy, active community road picked up more points, as well as our display of ham radio literature for the public. Bonus points were gained by working 5 stations on natural power – using N1YWB's solar cell battery. Satellite contacts produced another 100 points. Paul copied the ARRL bulletin via RTTY, which got us more points. Traffic sent to the Section Manager and 10 traffic messages received and relayed added to points. Finally, special this year, Fred set up and demonstrated a non-traditional mode of amateur radio – APRS.

After rave reviews last year, the RANV Field Day food service was expanded. This year, we added barbecue chicken to the menu, along with salads and other goodies. A shelter with tables and chairs was put in place to provide a nice place to dine. With Richard and Karen's fine attention to culinary detail, everyone was happy with the eats. A large number of visitors came by during lunch and dinner to visit the operation and to join in at the feast. The improvement for next year is to provide limited food and drink during the setup and take down.

At this point, I really don't know how our group did in comparison with everyone else. From the limited scores I have heard about, we are the largest score in 2A so far, but that means nothing until the full results are published in December. Until then, all we can do is to sit back and take pleasure in another Field Day well done.

CONTEST CORNER

By Paul AA1SU

The results of the 1999 ARRL November Sweepstakes Phone are in! RANV members figured prominently in the Vermont and New England standings. In the low power category, friend of RANV Grant N0ICI (now K1KD) just beat out me, AA1SU, and we both had sweeps (my first). New member Jim N1BCL also posted a nice showing using his former Tech Plus privileges. In the high power slugfest, Mitch W1SJ won the New England Division Plaque with Ron KK1L and Ted K1HD also putting out a fine signal for Vermont. Once again, we were all victims of the log checkers as scores were reduced for logging errors. In the Affiliated Club Competition RANV was in the middle of the pack in the medium clubs. Evidently, not everyone listed RANV on their summary sheet and we lost points due to this.

I just received a nice certificate for the *Worked All Europe CW Contest*. Apparently, I placed 3rd in the W1 Call Area. This was a complete surprise because I was off the air for a very long stretch for our company picnic. In the Phone portion of the contest, I played around, made a few contacts, and scored 2nd in the W1 call area, but no certificate because of the low score. Remember, if you just get on the air and make some contacts, you never know what will happen.

Here is what is coming up in the next few weekends. On Saturday July 15th, there is a Six-Meter Sprint from 7pm to Midnight. Score one point/QSO, and multipliers are grid squares. Visit <http://6mt.com/contest.htm> for more details. On the weekend of July 22nd is the *Georgia QSO Party*. It starts at 2pm Saturday and runs until 8pm Sunday, with an off period of Midnight to 10am Sunday. Score 1 point SSB, and 2 points CW. Multipliers are the 159 GA counties per mode.

On the 29th, you can work the *Islands On the Air Contest*. It starts at 8am on Saturday, and ends at 8am on Sunday. Single operators may only work 12 of the 24 hours maximum. Send RS(T) and serial number. See QST for scoring. Island chasing is a whole other area of this great hobby, and it goes on all year long. The RSGB has awards for working a minimum of 100 Islands and endorsements for additional islands, after that. Some of them are DXCC countries unto themselves and can help build up your country count. This is an everybody works everyone contest, but the high points are with the IOTAs. Multipliers are IOTA numbers worked per band and mode.

For the RANV club picnic on August 5th, will have radios on hand for the *10-10 International SSB Contest*, so bring your 10-10 number. If none of this appeals to you, there is usually a special event station on the air somewhere. Why just the other day, I was tuning around the bands and found NU5DE, operating from a nudist colony. I wonder what that certificate will look like.

Next month: a grid square contest on HF?

**NEXT MEETING:
“Radio Tune-Up Clinic”
Tuesday, July 11th, 7pm
O’Brien Civic Center**

**RANV SUMMER PICNIC
Saturday, August 5th
Knight’s Point State Park**

RANV

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