



Radio Amateur News & Views

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BATTERY ANALYZER & SET UP AND OPERATE The June 14th RANV Meeting

The June Meeting will be two parts. The first part will be a presentation on the CBA-II Computerized Battery Analyzer that the club purchased after the last meeting. N1BQ will introduce the device and show how it can be used to evaluate various kinds of batteries. After the meeting the unit will be made available to club members as a loan. A Windows compatible computer of at least a Pentium II with a USB port is required.

The CBA-II is quite a nicely done package. West Mountain Radio has developed a computer controlled load with precision voltage and current measurement devices that permits you to evaluate batteries under different load conditions and chart the results. We all have a number of batteries around that we have ver1y little idea exactly what condition they are in. This will tell you.

During the second part of the meeting, Mitch W1SJ will talk about station set up and operating. This talk will cover topics of general interest and will also specifically discuss set up issues at Field Day, which will occur later this month. Not a month goes by when someone asks a question about how to install, set up or configure a particular radio or antenna system. Bring all of your sticky equipment setup problems and ask the expert!

The meeting will be at 7:00 on June 14th at the O'Brien Civic Center at 113 Patchen Road, South Burlington. Mark this date on your calendar and get down to the meeting! Let's see if we can bring our meeting attendance back up to the large levels we saw last year. Pre-meeting festivities will be at Zack's on Williston Road, starting at 6.

FOX HUNT

The next Fox Hunt will be held Friday, June 17th, starting at 6 PM. This will mark the debut of Carl AB1DD and Brian WB2JIX as the foxes. They "stumbled" onto Fox KB1FRW at the last hunt, giving him the Foxy honors this time.

The hunt will take place on the input of the 145.15 Bolton repeater (144.55 MHz). All hunting teams must check-in prior to hunting. The fox must hide within Chittenden County, be in a public accessible place and have at least an S-1 signal to a mobile at I-89 Exit 14.

FIELD DAY

Field Day is June 24-26th. Despite the fact that Field Day is all of Amateur Radio rolled up into one event, participation is suspect. RANV members set record numbers last year as 35 members participated at, visited, or operated Field Day somewhere. As good as that sounds, consider that 70 RANV members did not have anything to do with Field Day, nor did they even turn on a radio that day. Why is this? Dunno, you'll have to ask the silent majority. Suffice it to say Amateur Radio's vital signs do not look good. Whether you are measuring hamfest attendance, club meetings, public service events or on-air activity, all are showing downward trends, virtually everywhere. I cannot believe that any ham operator would not make sure to be somehow involved in Field Day each year.

So, what do you do at Field Day? We need operators! Not only are experienced contest-style operators needed, but also low key operators are needed for the VHF and GOTA stations. Or if you are looking for real low-key, visit our sister QRP site N1QS in Underhill. There is a niche for everyone!

Not everyone likes to operate. No problem. We have lots of stuff to put together, including an array of antennas to die for. Spend a couple of Field Days helping to erect antennas and you just may become an expert yourself! Or if antennas are too scary, we have tents to put together and wires to be run, tables to

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OUR LAST RANV MEETING

by Carl AB1DD, Sec'y

The May 10th meeting was a little different than normal. It started off with a pizza supper that 10 members took advantage of. This was a good opportunity for members to enjoy some good fellowship before the regular meeting. The meeting was called to order at 7:00 with 13 members present. Mitch announced a few upcoming events: The Memorial Day Parade on May 28th, Vermont City Marathon on May 29th, and the VHF QSO Party on June 11-12th. The big event, though, is Field Day on June 24-26th. There will be more on this at the June meeting.

Paul AA1SU reported that the Field Day site is in good shape, and site owner CSWD will be happy to accommodate us. Please support Field Day. EVERYONE can participate in some way, like setup, operation, GOTA, support staff, and take down. Contact Mitch W1SJ to secure your spot on our team.

Dave W1DEC reported that there has been little activity on the PRB-1 legislation. The Bill has been "tacked to the wall" for later action.

Brian N1BQ proposed that the club invest in a battery analyzer. This would be used by the members on a loan basis to analyze batteries they own. There was some discussion on this, both pro and con. On the positive side, members could measure the state of various batteries, and on the other side, you usually know when a battery won't hold a charge. There also was concern about the club owning test equipment that would be loaned out. Bob W4YFJ made the motion, seconded by Bob KB1FRW and it passed, but not unanimously.

The main topic of this meeting was the Activity Night. There were some left over kits from past projects, like tape measure beams and active attenuators. We had SWR meters to check out antennas and mobile installations. There was also an en-

graving pen to mark any equipment with an identification of some sort. Brian N1BQ had some ham software and was offering to burn CDs or place a copy on other media. He also provided some PC upgrading for W1SJ's PC, recently purchased at Hosstraders. Jeff KB1IWK brought along a modulated laser projector he built. It used a laser pointer to draw a pattern on the wall via mirrors attached to small motors. This kept Robert W1RFM occupied and out of trouble most of the night. Needless to say, there was a lot going on at this meeting.

No one got the trivia question last month. An 807 was a vacuum tube used in transmitters. It was a large tube, in the shape of a small beer bottle. Going to get an 807 refers to obtaining a tall, cold beverage.

This month's trivia question: *What was the big news on the Tonight Show on Friday the 13th?*

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Please send submissions for the newsletter to the editor, W1SJ.

THE PREZ SEZ

by Brian N1BQ, President

Field Day is coming! Field Day is coming! OK, there is my Chicken Little imitation for this month. Come to the meeting and learn about why things are done the way they are at Field Day. Mitch will tell us the logic behind how you set up the station, chase the bands and how to maximize your performance.

In a completely different direction I need to say that I am puzzled. Attendance at meetings is down, but we do not know why. We have guesses and speculation, but that is all they are. Sound judgments are based on having information and quite frankly we, the officers of RANV, have been operating in a vacuum for months. Despite regular pleas for input we have had but a trickle. If you aren't coming to meetings we must be doing something wrong, but if you don't tell us what we are doing wrong, how can we change it?

A small number of people regularly make suggestions. Their suggestions have been implemented where possible. You know who these people are; they show up at every meeting. But how about the rest of you? Why not come to a meeting and tell us how to make it more interesting for you.

Think about it, please!



Somebody hacked the QST Web Site and some bootleg copies of QST went out by mistake!

MORSE CODE: NOT DEAD YET!

editorial by Mitch WISJ

"I just saved a bunch of money on my car insurance."

It's likely that this saying will go down in history as one of the famous sayings of the radio world, right along side Samuel Morse's, "What hath God wrought?"

Unless you have been recently holed up in a cave, I'm sure you have certainly read about or even seen the video of the segment of the May 13th Tonight Show where Chip K7JA and Ken K6CTW blew away a couple of cell phone text messaging champions with Morse code while sending the message above. While many, including amateurs, proclaim how Morse code is an "antiquated" mode, and even while Jay Leno was making fun of Morse code, this 170-year old technology readily beat and showed up the latest and greatest technology that the Wireless industry has to offer. And they did that in Southern California, where the cell phone coverage is great. If this occurred in the wilds of Vermont, the cell call would likely have been dropped in the middle of the message!

The details of the "contest" are widely published and need not be repeated here. Instead, all of us who use technology need to understand that raw skill will almost always trump technology every time. The mistake that society makes every day is to throw out "antiquated" techniques in favor of new whiz-bang solutions. Often, it appears to be a good decision. Then something happens, and the whiz-bang technology goes flat-line, leaving only the few knowledgeable people to carry on and save the day.

Most amateur operators cannot copy at the 25 words per minute which Chip and Ken easily conducted their communications. In fact, most amateurs know little if any Morse code, and those who do, only at a very slow speed. However, an entire generation of graying contest operators regularly operates at these speeds or even higher. While my code abilities aren't among the best, I regularly jump into high speed CW contests, purely for the fun of it. I hated Morse code and struggled to pass 13 and 20 word per minute exams. Years after I passed those exams, I started doing CW contests and built up my ability to the point where I can be competitive. In the process, I learned to appreciate and actually enjoy the mode, even though my mode of choice is phone.

Most amateurs today agree that Morse code should not be a prerequisite for a license or even an upgrade. However, that doesn't stop one from becoming fluent in Morse code. It really is a lot of fun. And for those who claim that they cannot learn it, I believe this: If you can comprehend English, you can learn to comprehend Morse code, if you so choose. Why should you choose Morse code? For the same reason you choose amateur radio. You can talk all over the place on your phone and computer, but you choose amateur radio because it is fun (*and useful*). The same goes for learning Morse code. Always remember that our power as radio operators come from the fact that we are (*or are supposed to be*) expert communicators. When we trade off those skills for technology, we are no better than any other unlicensed person with a radio.

MICROPROCESSOR COURSE OFFERED

by Brian NIBQ

At the November RANV meeting I did a presentation on "Microprocessors in the Hamshack." I said then, and still believe, that the centerpiece of learning and getting started with microprocessors is the Parallax Corporation's Basic Stamp series of one chip computers. I used a board and chip and showed a text called, "What is a Microprocessor?" The kit that includes all this is sold by Radio Shack for \$80. The same kit direct through Parallax is somewhat more expensive.

Recently, I have been approached by several club members who were interested in taking the course. I did some figuring and a searching my stores of parts and some of the bargain columns on the net and was able to come up with a kit of the expendable parts associated with the kit for about \$25. Here is what I put together: 1. CD with course material, reference material and software; 2. printed documentation and reference material; 3. Prototype Board with Basic Stamp 2; 4. Parallax standard servo motor; 5. Kit of parts including wire, resistors, capacitors, LEDs, potentiometers, and some assorted chips.

When the course is done I expect the items #3 (board and BS2) and #4 (*servo motor*) to be returned in good working order.

I have committed myself to one or two 3-hour sessions with the students during the course if requested.

Parallax says the course is aimed at teenagers and up and takes 40 hours. I did the course in less than half that time, but spent the some of the saved time experimenting and tinkering beyond the scope of each exercise.

I have enough resources that I can put one more system together for a third person if anyone else is interested at this time. Parallax also has courses on Basic Analog and Digital, Sensors, Industrial Control, and other topics. If interested I can probably pull together the parts for most of the other course as well. The text material is available free on the net or on the Basic Stamp Resources Disk that I sell for \$3.

Radio Shack in Essex Junction has four of the WAM kits on hand. If anyone wants to get his or her own and join the group I am putting together, please do.

EQUIPMENT PROBLEMS?

by Mitch W1SJ

Over the last several months, it has become apparent that the reliability of amateur radio equipment has been a lot less than expected. Yes, with all types of equipment, failures occur, but the failures and the complexity of failures have been on the increase, from what I have seen.

A month ago, I took a trip to Connecticut. I noticed that I couldn't bring up the Bolton repeater in the usual hot spot near Springfield on I-91. Slack conditions, I thought. Down on the coast, there are rolling hills topping out at 400 feet, meaning that the repeaters down there do not have great range. However, I was finding that almost every repeater seemed to have much great transmit range than receive range (*repeaters like this are called alligators – all mouth, and no ears*). On the way back, again I noticed that I couldn't reach Bolton in the usual spots and I became suspicious. When I got home, I put the wattmeter on the radio and was quite surprised to find it putting out a miniscule 0.1 watts! I was amazed that I was able to work anything at this power level. All other indications on the Yaesu 8500 were nominal – the power meter went up to full scale, which you would think would indicate full power output. Nope! The meter appears to indicate something else – drive power, drive voltage or something else. I could adjust the power level and get different power indications on the meter, but the power remained at 0.1 watt! Fortunately, the fix was easy. A cold solder connection to the Power Amplifier circuit was reheated and everything is now working properly. But the fact remains – the power output metering function is useless! The only way to really know what is going on is to use a wattmeter.

At the Vermont City Marathon, Debbie W1DEB complained that her mobile radio, an Icom IC-228, wasn't being heard. The radio's power meter showed full power output and also showed reduced power when the power level was turned down. The wattmeter showed 0 watts. Again, the radio's power meter is a useless indication.

Again at the Marathon, Doug AB1T was very weak into the nearby repeater. A quick look at his HT showed an indication of full power output. The wattmeter, however showed 0.1 watts – whether the radio was in high or low power. Changing the battery fixed this problem. There would have been no way to know this without the wattmeter.

Another nasty problem is the broken RF connector on the radios. Wear and tear on the RF connector (*whether it be a BNC or SMA*) will loosen up the connector and often break the wire connection to the output board. The result is that the radio will not transmit or receive very well. We had at least 1 problem of this type at the Marathon, and judging from some of the weak signals, perhaps a few more. Add to this a couple of questionable microphone cables and we had a sizeable percentage of Marathon operators with radio problems.

The point of all this is that we cannot trust that our equipment will work properly all the time. While broken equipment is a nuisance during casual operation, it is a big problem during emergency communications.

The key is to plan on a schedule of routine maintenance for all equipment. This should be done on a regular basis, like every 6 months. Obtain a wattmeter or borrow one and measure the power output of all transmitters to make sure everything is operating as advertised. Then check the antennas for SWR and broken cables. While checking antennas, move the coaxial cable around to make sure there isn't a problem. Check the operation of the radio on all frequencies to make sure all the information stored in memory is correct. Sometimes the repeater changes, sometimes the memory changes. RANV owns a battery analyzer. Use it to check the performance of your batteries to assure that they will hold up when it counts.

The key is to have all of your equipment operational and ready. If a disaster occurs while you are reading this, will you be able to operate, or is your transceiver putting out 0 watts?

FIELD DAY...

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set in place and stuff to be trucked around. There is a lot of skilled and unskilled labor required. Or, join up with the legendary RANV Power & Light and help maintain the machinery that cranks out 8.5 kW hour after hour.

Maybe your forte is the culinary arts. We have 20+ people to feed lunch and dinner to. I don't know whom the head chef is this year, but he or she will certainly need help!

We also have activities which occur before and after Field Day. Before the event, we send out publicity, arrange for visitors, copy W1AW bulletins, originate traffic and set up SSTV and APRS station equipment. When Field Day is over, we need fresh bodies to help haul down the antennas. Someone has to do all of this work. Perhaps it is a job you would enjoy.

None of this happens spur of the moment. It all takes planning! First, contact Mitch W1SJ and let him know what times you are available and what things you want to be doing. Next, attend the Field Day planning meeting on Monday, June 20, at W1SJ's QTH. This meeting is an orientation meeting for the new people and a sanity check for the veterans. Then, show up Friday afternoon 2-8 PM at the Redmond Road Site for antenna raising. Finally, show up for Field Day starting Saturday morning.

If you cannot participate in a serious way, then by all means, come and visit. If you cannot do that, at least find us on the bands and give us a few contacts. Look for us on the repeater!

Info at: www.ranv.org.

VT ARES

by Zack K1ZK, Dist 1 EC

A lot of great benefits come with an amateur radio license. You can hone your technical skills, participate in contests, and make new friends. But, as with many privileges in life, a ham ticket could also be said to come with certain responsibilities. You need to act responsibly on the air, and you need to consider safety when installing antennas that radiate.

There is one additional responsibility that is made very clear in the Code of Federal Regulations (CFR). §97.1(a) indicates that the one purpose for the existence of the amateur radio service is to provide "...a voluntary noncommercial communication service, **particularly with respect to providing emergency communications**" (*emphasis added*). Of course, we don't need Federal code to tell us the importance of this responsibility. Most hams seem to be helpful and generous by nature.

I am writing to encourage you to become a member of the Vermont Amateur Radio Emergency Service (*VT ARES*). Membership is free and participation is voluntary and you don't need to be an ARRL member. In my opinion, it is the least we can do. By becoming an ARES member, you can give back to your community, learn new skills, and give our government good reason to continue to support the amateur service. One of the main arguments we used when pressuring the Vermont Legislature to pass H.12 was that amateur radio operators provide a very important backup communications network.

Yet out of the 806 licensed amateur radio operators in ARES District 1 (*Chittenden, Franklin, and Grand Isle Counties*), only 47 are registered with ARES. Forty-seven ARES members in the most populous ARES District in all of Vermont. We can do better, and, fortunately, it's not hard to do so! ARES registration is simple, and does not commit you to any specific activity -- it merely indicates your willingness to serve in times of need. To register, simply download the registration form (available at www.arrl.org/FandES/field/forms/fsd98.pdf), fill it out, and mail it to Carl Phillips KC1WH, 112 Birchwood Drive, Colchester, VT 05446.

For more information on Vermont ARES, visit www.vtares.org or feel free to contact me or any ARES official.

VERMONT CITY MARATHON

by Carl KC1WH

On Memorial Day weekend, over 7000 runners participated in the 17th annual Vermont City Marathon. The event included marathoners running the entire 26.2 miles, plus simultaneous 5-leg and 2-leg relay teams. The weather was overcast with mild temperatures – ideal running conditions.

The VCM Race Committee relies on Amateur Radio communications to help identify and solve problems on race day. Two nets are used to provide radio coverage for the aid stations, relay exchange points, race officials, supply vehicles, medical facilities, police liaison, pickup buses, information booths, and trailing bikers. As they cycled around the course, ham operators from the *Green Mountain Bike Patrol* also communicated problems to Net Control.

The primary net was continuously busy for long periods of time, where problems were identified and solved, and questions were answered. The secondary net also had significant activity tracking leading and trailing runners and providing backup when the primary net was too busy. Some of the communications included medical and ambulance calls, pickup bus dispatch, supply issues, road closures, and the most interesting one, the Pit Bull running down the course at Mile 24 on the Bike Path! Both repeaters, the 145.32 MHz event repeater on the Waterfront and the 146.61 MHz repeater in Burlington, provided excellent service.

Thanks to Net Control operators Steve KB1IVE and Mitch W1SJ who made the communications run smoothly. The 42 ham operators in this event included **RANV** members: Doug AB1T, John N1LXI, Howie K2MME, Fran KM1Z, Chris WT1L, Zach K1ZK, Rick W1RLR, Roger K1CRS, Debbie W1DEB, Mitch W1SJ and Chris N1CCL. Also thanks to Bob KB1FRW, Chris N1CCL and Steve KB1LVE who helped Mitch install and take down the temporary event repeater.

Thanks again to all who helped with the event, and I hope that everyone had a good time. Whether you participated this year or not, I hope that you'll consider joining the 2006 VCM Communications team.

PARADE GOES SMOOTHLY

by Mitch W1SJ

Despite ominous weather predictions, we had a beautiful morning for the Essex Memorial Day Parade. I was concerned that we were not going to get much of a ham radio response and we ended up setting a record for the number of operators (13). In fact, we had hams stationed in each of the 12 parade divisions plus the reviewing stand. We went about our job of lining up the participants and reporting changes to the reviewing stand. We also had time to parade a couple of vehicles of our own. It looked like a no-show for **RANV** #2, the GoKart, but some last minute work with N1WQS got the blasted thing going, finally. I used it as a herding car to keep Division 5 together and had some fun with the little cars from the Mt. Sinai Shriners. Debbie piloted the larger **RANV** #1, bristling with antennas for 80 m through 70 cm and blasting out some mean CW on a speaker up above. She had fun dealing with some character who complained about the CW (*a no-code guy??*) who wouldn't let go of the van until Debbie rolled up the window! It's always fun to meet new folks!

Thanks to our crew: KB1DUI KB1DUO KB1EQG KB1EZD KB1GBW KB1LIE N1LXI N1PEA N1WCK N1WQS W1DEB W1SJ and W4YFJ.

**NEXT MEETING:
“Battery Analyzer” &
“Setup and Operate”
Tuesday, June 14th, 7 PM
O’Brien Civic Center**

**FIELD DAY
Meeting: June 20th
Setup: June 24th
Contest: June 25-26th**

RANV

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