



Radio Amateur News & Views

The Official Journal of the Radio Amateurs of Northern Vermont

OCTOBER, 2005

Vol. 15 No. 10

Manufacture Of Integrated Circuits The October 11th RANV Meeting

We all use and enjoy our hi-tech toys. Whether it is stuff that layman use, such as cell phones, computers or CD players or whether it is the latest wizbang radio from Kenwood, Icom or Yaesu, all electronics today have a least one integrated circuit. An integrated circuit combines the functions and electronics (*including transistors, resistors and other components*) in a single package. Today, many of the integrated circuits are microprocessors, some of which are so powerful that they would put yesterday's mainframe computers to shame. Inside of that package is a piece of silicon on which is etched the various circuit components. Folks who work in the industry call this silicon the "chip".

One of the largest chip manufacturing plants in the world is located right up the street from us at IBM. IBM Burlington (*why don't they call it Essex?*) supplies chips and integrated circuits for the entire corporation and for other clients as well. John K1JCM is part of the team of people who crank out chips day and night. He will give an overview on how these circuits are first designed, how they are actually crafted from silicon wafers, how they are tested and then cut up into tiny little chips. Then we will learn how these chips are mounted onto packages with umpteen pins on the back and then how they figure out which ones are good enough to ship and which ones go into the big dumpster. Chip manufacturing is a highly complex and intensive process so there will be plenty to learn. John will also have plenty of show of tell items from every step of the of the manufacturing process.

Things get underway at Zach's on Williston Road around 6 PM. The meeting is October 11th at 7 at the O'Brien Civic Center, 113 Patchen Road, South Burlington. Hope to see you there!

HOSSTRADERS

Time for the annual Fall Foliage trip to Hosstraders this Friday and Saturday, October 7-8th. The location is the *Hopkinton State Fairgrounds* in New Hampshire. Take I-89 into New Hampshire and head for the *Exit 7 - Davisville* exit. After getting off, go left under the highway for 0.2 miles and then go right (*Warner Ave.*). The fest will be about a mile down on the left side. The trip is about 2 hours from Burlington.

The fest opens at 9 AM on Friday and ends 1 PM on Saturday. Exams will be given on Saturday at 9 AM. Admission is \$10 Friday before 3 pm, or \$5 afterwards. Sellers pay \$10 additional. There are plenty of hams and goodies on both days.

For communications, use 145.15 MHz into New Hampshire, then 145.33 and 146.895 MHz. At the hamfest, use the 146.67 MHz repeater to talk amongst our group.

Carl AB1DD has a big van and is looking for riders. He will be leaving early Friday morning and returning that evening. Call him immediately at 482-3878 (*early*) or on the repeater if you want to hop on.

FOX HUNT OCTOBER 14TH

The final RANV Fox Hunt of 2005 will be held Friday, October 14th starting at 6 PM on the 145.15 Bolton Repeater. The lucky hunters will not have to deal with competing with W1SJ, since he will be firmly planted in the Fox hole. No one knows what tricks he may have up his sleeve. Even I don't know!

So make sure you can make it out to the hunt, as there won't be another for 6 months! Please check in on 145.15 repeat at 6:00 or when you are about to start. The fox will be in Chittenden County, in a public accessible place. The Fox may or may not be wearing camouflage or a silly disguise and may be in either corpo-

real or spiritual form. The Fox will transmit 10 seconds out of each minute and guarantees to offer of a lot of bad humor. First finder gets all the bragging rights and a free ticket to hide in the first hunt next year. Happy Hunting and Good Luck (*you will need it!*).

LAST RANV MEETING

by Carl ABIDD, Sec'y

The September meeting was called to order at 7:00 by President Brian, N1BQ. There were 20 members present.

Some of the upcoming events were announced, including Hosstraders on October. 7-8th, a preview of upcoming RANV meetings and an announcement of the memorial service for Carl Phillips KC1WH on September 24th.

Thanks once again to Bob KB1FRW for picking up the snacks, and Paul AA1SU surely appreciates that. John KB1EZC has once again volunteered to provide us with eats for next meeting.

The topic for this meeting was high altitude ballooning, also known as the "Poor man's space program". Brian once again put on a great presentation. It was interesting to find out that one of the first, if not the first, balloons launched was from the Burlington airport. Several balloon flights have started from Milton High School, home of our Winter hamfest! Brian showed slides which detailed the electronics included in each balloon flight, including APRS radio for tracking, a crossband repeater and still and video cameras. There were some great pictures from "outer space". We also saw some launch videos which showed what not to do when launching a balloon. High wind launches should be avoided!

The question that came up at the end of the meeting was "When will RANV launch our own balloon and make our mark on the Space Program?" Stay tuned for details!

THE PREZ SEZ

by Brian N1BQ, President

Fall is hurricane season. In Vermont, we generally only have to deal with a day or two of heavy rain remnants of these storms and some possible attendant flooding as a result. We certainly will not have to deal with destruction on a scale with which our countrymen in Louisiana, Mississippi and Texas had to deal with. All over the country communities are talking on the subject "are we prepared?" **Well? Are you?**

No, we won't ever deal with a Category 5 hurricane up here. But, it was not that long ago that we were only a right turn away from an ice storm that left our many of our Canadian neighbors just a few dozen miles to the North without power for months. It could happen here. **Are you prepared? Well? Are you?**

As a citizen, homeowner or head of family, we should consider how we are prepared to survive if basic amenities, water, electricity, gasoline, heating oil, etc. are cut off for a day, a few days, a week, a month. The various time scales of loss will require different approaches. Have you thought about it? **Are you prepared? Well? Are you?**

As hams, we have been granted some very lucrative pieces of RF real estate, FREE. It has always been implied that in return for the nearly exclusive use of these frequencies we would put them, our equipment, and ourselves at the public disposal in time of need. Do you know what to do to get on the air if all the power is gone? Are you prepared to be able to produce reliable communications for those who need it over an extended power outage? **Well? Are you?**

It's one thing to keep your talkie batteries up on charge for the quick use. But do you know how to recharge it if the electrons aren't spilling from the receptacle to the rapid charger?

There is the age old sniping between the QRO and QRP camps; but do you know how to operate under low power when you aren't sure from where the next battery charge is coming? This isn't just technical. This is operating practice.

Many hams are ready. Witness story after story throughout Louisiana and Mississippi of hams driving up to some local EOC, his car crammed full of everything he could offload from his shack and throwing up a quarter wave on a few feet of mast and getting in touch with another ham at yet another EOC on FM simplex. In most cases this was the first communications that the EOC had had with anything.

The New Orleans APRS digipeater remained on the air the whole time. Of course, every Internet gate within its range was silent. That is, until Bob W4APR commented on it on the Internet. He had an Internet gate capable station in central Mississippi point a seven element beam at the New Orleans digipeater and it was now back on the net and those hams who had set up APRS as well were apparent on the map.

These people were ready and came through when they were needed. **Are you prepared? Well? Are you?**

Contacting RANV

In Person: Meeting, Oct. 11, 7pm,
O'Brien Civic Center
113 Patchen Rd, So. Burlington

By Mail: PO Box 9392,
So. Burlington, VT 05403

By Radio: 145.15 repeater

WW Web: <http://www.ranv.org>

President: Brian N1BQ 899-4527
n1bq@wulfdn.org

VP/Tres Bob KB1FRW 434-2517
mcamp@gmavt.net

Secretary: Carl AB1DD 482-3878
ab1dd@arrl.net

Editor: Mitch W1SJ 879-6589
w1sj@arrl.net

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

DISASTERS – ARE YOU READY?

by Mitch WISJ

With the twin disasters on the Gulf Coast overshadowing all news this past month, I would be remiss if some comments weren't offered in regards to emergency preparedness. President Brian touches on this in the Prez Sez and I will go into detail and amplify the message.

The Katrina mess is the first example of wide area infrastructure failure on our shores. Sure, these types of disasters have occurred before BUT NOT HERE. Just because your address is in the United States doesn't rule out a widespread disaster. And by widespread infrastructure failure, we mean that power, telephone (wired and cell) cable, computer and roads are not usable in a large area. People cannot communicate nor call for help. That is where we as amateur operators come in.

Many of us felt bad when we heard of helpless victims in medical facilities dying because they could not call for help as the water was rising. I can only imagine that if each facility had a 2-meter transceiver, suitable backup battery, backup antenna and knowledgeable operators, the outcome would have been much different. While everyone calls amateur radio obsolete and outmoded, I am telling everyone who will listen that a backup amateur station and trained staff should be an absolute requirement in any institution.

Our mission, as defined by the FCC, is to provide communications for exactly this type of disaster. That is why the government puts aside valuable frequencies for us. We know there are a lot of amateur communications going on in the Gulf, carried on mostly by people who were outside the main ravages of the storm. One would have to assume that amateur radio is doing a tremendous job, because the alternative would have been absolutely no communications for the first few days after the storm.

We know about the potential for destruction on the coast due to hurricanes and tidal surges. But what about in Vermont? We have been blessed by living in area in which disasters are few and limited in scope. The population is less dense, meaning help can be provided to individuals faster. But does that mean we are off the hook? No way. Anyone who thinks that they know what the next disaster will be is tragically fooling himself or herself. Emergency Management tells us that they are ready, but I am unconvinced. In fact, all people should realize that in a large disaster, the government will not suddenly ride up over the hill on a white horse. Yes, they will show up eventually, but by that time you may no longer be a survivor. Everyone needs to be prepared. The general rule is to have food, water and supplies for 3 days, but you might be smart to have more.

I am unconvinced that our amateur radio response in Vermont can provide any more of a token effort to a widespread disaster. Does this make you mad? Good! Prove me wrong by demonstrating preparedness. The number of amateur operators in Vermont who get involved in any sort of non-emergency activity is very small - much less than 100, out of 2200 licensed operators statewide. That's nothing to be proud of. Taking the operators of the Vermont City Marathon, for instance, these folks are the cream of the crop as far as operator ability. And in this group, we find, every year, operators who cannot find the right frequency, cannot supply a usable signal or else their equipment goes down through no fault of their own. Holding an amateur license doesn't make you a communication expert. It requires practice - all the time. Whether the practice is in the form of public service events, special operating events, contests or Field Day, it is practice which is essential. And few hams in this state are getting it.

Sadly, as our communications skills are becoming more needed, we, as a group are falling lax. Notice how quiet the repeater has been lately? Guess what? Ours is one of the busiest repeaters in the Northeast. I listen to repeaters across New York and New England and activity is few and far between. Notice how hamfest attendance and meeting attendance has been falling off. Notice how few new hams are getting licenses. The trend is the same across the board. Everyone likes to point fingers at the bad guys — cell phones, the Internet, E-bay, etc. Guess what? I've found the bad guy and he is us. Every opportunity to be active in amateur radio that you turn down, you are contributing to the demise of our service, when it is even more needed. Now, no one can second guess your choice of activity (especially when it is for job or family retention), but keep in mind that each piece of your lack of activity (and training) ends up hurting amateur radio in some small way, which adds up.

Let's get to specifics. Things hams should do:

1. Make a point of making at least a contact per week. This tests and verifies your equipment.

2. Have ways to run your station if power is not available for a long time. HT's should have second batteries. Base and mobiles should have larger 12-volt batteries for power backup. At the very least, you should have cabling and knowledge in how to charge your batteries from a running vehicle for those times when power is out. Make sure you properly cycle and check the charge on your batteries (*at least every 2 weeks*). Failure to do this will mean you are dead in the water when you need power.

3. Obtain and store extra antennas in an accessible place. Have both mag mounts and base antennas, extra coax and some simple

DISASTERS – continued next page

DISASTERS – from previous page...

masts ready. Keep a small tool kit with small tools, soldering equipment, extra connectors and a simple multi-meter handy.

4. If you don't know how to use your radio, LEARN! Keep a condensed set of directions with the radio at all times. If you cannot learn how to use your radio, get an older, simpler model. There is nothing more exasperating than coming upon an operator who cannot change frequencies.

5. Set aside time to take part in at least 2 operating events per year. This is where your ability and your equipment's ability are put to the test.

6. Convince all institutions and government agencies that they should have an emergency amateur radio station with trained staff in their facility. Remind them of what happened in New Orleans.

Things everyone should do:

1. Have 3-6 days supply of water, food, medicine and basic supplies. Keep your gas tank above 1/2 at all times. As we saw in Texas, gas is the first thing which runs out. As for water or fluid, if you don't drink any for over a day, you are all done.

2. Have a plan to find everyone in a disaster. With family members scattered and communications out, this could be an insurmountable task, but it is one of the most important. Come up with various scenarios and make sure everyone knows what to do and where to meet in different situations.

3. Don't live in a potential disaster area. Putting half a million people below sea level protected only by mounds of dirt is a bad idea. When New Orleans is rebuilt, the people should be relocated on higher ground. No one should live on the ocean or on a barrier beach. Los Angeles and San Francisco and the surrounding areas are a death trap. One day something serious will let go on the fault line and the body count will go into hundreds of thousands. It is time our society start limiting the population density in hazardous areas. In Vermont, if you live right next to a river or lake, you might want to consider relocating. Bodies of water have a nasty habit of rising and flooding. Much of the Vermont State Government in Montpelier and Vermont Emergency Management in Waterbury are right next to the Winooski River, which floods often. I ask myself, how can the state protect us when they get flooded out?

There are a lot more things I can think of, but I'll end this here for now. The thought I leave everyone with is that we must be thinking about and be concerned with our own survival in preparation for an emergency. Politicians don't give this much concern, since they only care about votes and disasters are such a negative thing that they won't mention it. So, in our busy lives, we should be thinking of the what if's. If the folks on the Gulf did this, the perhaps the suffering would have been much less.

N1YWB MOVES WEST

Jeff N1YWB has recently accepted a position as a ship-board programmer and system administrator with the Scripps institution of Oceanography in San Diego. He is packing up his Westchester QTH and will be out there to start October 17th. Part of the job will be going on 1 month long ocean cruises 4-6 times a year. Sounds like a giant Field Day! Because of the distance and scheduling, we probably won't see much of Jeff around here, although I'm sure he'll have a great ham setup on the boat!

FIELD DAY OPERATORS NEEDED NOW!

With the moving of Jeff N1YWB out west and the passing of Carl KC1WH, we have a large hole in Field Day staffing to fill. Most of you know that Jeff was one of the key people behind the GOTA and VHF stations in years past. However, his more important job, the one that many didn't see, was handling the late night and early morning phone operating. As our other phone operators got tired or were tied up on CW, Jeff and I would switch off on 80 meter phone overnight and then he would tandem with Carl on 40 meters on Sunday morning. This allowed the rest of us to get some much needed rest.

So, it's 9 months before Field Day, but I am sounding the alarm now that we need overnight phone operators. For the wee hours, dizzying speed is not all that necessary. However, with little supervision (*everyone is asleep*), we need someone who can step in and produce contacts, no matter what the band conditions have to say about the subject! With this long lead time, anyone can volunteer now and get the necessary training to be competent. With Sweepstakes only weeks away, there are plenty of operating opportunities. So don't just read this and nod your head. Volunteer!

We will also need someone at Field Day to take care of the SSTV/ APRS/ Packet demonstration stations. We are working to reproduce some of the equipment Jeff has to make it more plug and play, but we still need someone to run it. Great geek work, if you want it!

And I still don't know how we did in Field Day 2005. We'll have to wait another month for the results!

And Just Why is Page 5 Blank?

The next page is blank because no one has been submitting material for the newsletter. Certainly, someone has been doing something in amateur radio which they can report on. So please, send in material and let us know what you are up to.

NEXT MEETING:
“Manufacture of Integrated Circuits”
Tuesday, October 11th, 7 PM
O’Brien Civic Center

Elections next month!

RANV

P.O. Box 9392

South Burlington, Vt 05407

<http://www.RANV.org>