



# WEST RIVER RADIO CLUB

## DIGITAL DISPATCH

### December - 2006



Volume 1

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The West River Radio Club, an ARRL affiliated club, was founded in 2004 through the efforts of KA1ZQX, Tim Bell, and N1JSG, Richard Pierce.

Our forty six members pride themselves on belonging to an active and productive organization with involvement in many aspects of this great hobby: public service, special events, Field Day, repeaters, emergency communications, contesting and chasing DX.

Current officers are:

**N1TOX, John Borichevsky; President**  
**KD6MPY, Sean Sanderson; VP**  
**K1KU, Darrel Daley; Secretary/Treasurer**  
**KA1ZQX, Tim Bell; Pubic Relations**

## PRESIDENT'S CORNER

### December 2006

Holiday Greetings.....

As I wrote in the President's Corner in the November issue of the *Digital Dispatch*, I continue to be so proud of the accomplishments we have all done over the last year. We continue to grow and maintain the club status we originally set out to follow. This is to be a club where we are all interactive with one another, learn from one another, and help out where needed. Keeping the meetings fun and enjoyable for everyone continues to be our main objective.

Another year is around the corner and here we go yet again. In 2007 we will have some major areas which will need to be addressed. GCH will be starting the plans for the renovations of the EMT Center and we will need to look for a

new meeting place, unless we are given space within GCH. There will be five (5) Entergy VY Drills. I believe we will be playing in four (4) of them, one of which is another Major Graded FEMA Test. We have a new EOC location within the EPZ. The Guilford location has moved to the new fire house on the Guilford Center Road and is not any longer at the Town Garage.

Continued changes to our repeater network have been a great improvement for our communications within Windham County and beyond. We have even more items on our plate than I have mentioned here slated for the next year, which will make 2007 an even better year for us than 2006! Stay tuned to the web site and meetings for updates. I ask everyone to continue your support to WRRC and help us out when you can. We all do make a difference as a team!

Even the FCC is sending us good greetings for the holidays! Our Ham Bands are changing! If you have been following the events, the FCC has released the "OMNIBUS" Amateur Radio Report which will take effect on December 15<sup>th</sup> 2006. Check out your new frequency ranges on the new chart on our "Meeting Minutes and Club Forms" page on the WRRC web site. There are a lot of changes to the HF side of the band plan. If you have not seen the write-up, go to

<http://www.arrl.org/news/stories/2006/11/15/100/?nc=1>

As another reminder, Saturday December 9<sup>th</sup> is our annual Pot Luck Luncheon, Mini Ham Fest and Election of Officers. If you have not sent in your RSVP to Jeanette - N1REB ([n1reb@sover.net](mailto:n1reb@sover.net)) with your head count and an idea of what you are bringing, please take this

opportunity to do so. We need to get some idea of how many are coming! Bring a friend or family member and share the joy! We hope to see you there!!

I hope everyone has a great holiday season and finds a piece of new ham radio equipment, or accessory, coming to you soon!!

Happy Holidays to everyone!!

73,

de N1TOX

John Borichevsky – President WRRC

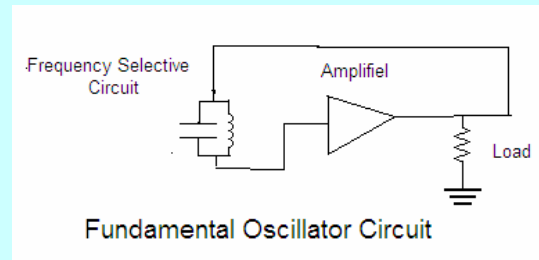


(Ed note: On behalf of those of you who are benefiting from these monthly technical articles by AA1T, Grant, I'll pass along a word of thanks for his time and effort in putting them together.)

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## Oscillators Part 1

Virtually every communications and measurement device at RF has one or more oscillators in it so the importance of these circuits is obvious. The design of oscillators is not a trivial activity. An oscillator is made up of three components. There is an amplifier, a frequency selective network and a load. One may not think of a load as part of the oscillator, but if there were no load there would be no output and the nature of the load affects the amplifier. The difficulty of designing an oscillator lies in the fact that in starting the amplifier is operating (we hope) as a linear amplifier while it must eventually become a non linear amplifier. Non linear systems are more subtle in their characteristics and much more difficult to analyze. We look for two characteristics in oscillators. We want to have frequency stability and low noise. Frequently the noise character of an oscillator is the limiting factor in the performance of device in which it appears.



The sequence in which the components of an oscillator are connected is arbitrary. The point used as reference, commonly called ground is also arbitrary. The key element is the presence of a feedback path.

The sequence of events occurring at turn on is the following:

1. Random noise anywhere in the loop is amplified.
2. The output of the amplifier is passed to the frequency selective network and the load in amplified form.
3. The output of the amplifier is divided between the load and the frequency selective network.
4. Those components of the noise that have the correct phase are passed on to the amplifier through the frequency selective network for further amplification.

Clearly this sequence of events can not go on forever. Eventually the power in the signal will become so large that the power source will no longer be able to support the voltage and/or the current demands of the oscillator. At this point some sort of limiting will have to take place. A circuit that does not exactly reproduce an amplified form of the input at the output is a non linear circuit. The change from linear to non linear operation is a gradual one and occurs until the gain is reduced to exactly 1.00...; neither more nor less. If the gain were less than exactly 1.0 no matter by how small amount the oscillations would gradually die away while if the gain were greater than 1.0 again by even the slightest amount the power demand would increase forever.

The characteristics of frequency stability and low noise are complementary. It is difficult to improve one of these characteristics without degrading the other. Low gain and minimum

power tend to favor frequency stability at the expense of increased noise while higher power lowers the noise while degrading frequency stability.

In future installments we will explore a variety of circuit topologies, component characteristics and operating features that must be taken into account in designing oscillators. In the meantime consider the following statement: A perfect amplifier (no noise and exactly linear) can not be used as an oscillator.



## RUNNIN' ON EMPTY

**O**K, if Presidents can have their “corner” why can’t editors have theirs? No answer is required. But why would you call it Running’ on Empty? The answer is, “I like it.” (And don’t bother telling me that it fits me to a tee.) Let’s also keep it as our secret that I stole it. A sports writer in an Alaska paper titled his column thus and it sort of struck a nerve. The obviously unstable chap, a high school teacher, had to confess to indulging in a bit of unethical behavior where he tutored many a young skull full of mush. Though no laws were broken he did the right thing and resigned. I hope to set a better moral example.



Be that as it may, another successful year for the WRRRC has come and gone. Time does fly when you’re having fun and believe me, I speak the truth - the older you get the faster it flies. Because I hate to waste space I won’t hash over all the same things the club did (and did them better the second time around) or the new things we tackled in 2006. To all of you I do offer heartfelt thanks for your support in 2006, whether it is your membership, assistance at some of our many operating events, serving as an instructor or VE, bringing in new members, contributing to this newsletter, Elmering,

helping hang an antenna, preparing a meeting program, or just coming out to meetings when you can – blah, blah, blah.

What I will hash over is a list of suggested WRRRC New Year’s resolutions that will help us out. You do want to help our club prosper, right? Hey, it’s something to think about. If you’ve been sitting on the sidelines in 2006 I hope that you might feel motivated to get your feet wet. If not, no problem. We’ll still welcome you with open arms.

- ♦ Re join for 2007. We may hold the record for having the lowest dues of any Ham club in the country. Every \$10 helps. If you feel extra extravagant you can even sign up a non Ham family member for and extra \$5.
- ♦ Attend a meeting now and then. They’re fun affairs with good camaraderie, VERY little business is done (that’s why we have a board of directors) and there is always an educational and/or entertaining program.
- ♦ Sign up for a walk-a-thon. That’s right, dust off that HT and come out to have some fun and help us in our public service role in the community.
- ♦ Sign up for Field Day, always held on the last full weekend of June. All who take part or just stand around and kibitz have a great time.
- ♦ Contribute a short write up for the Digital Digest.
- ♦ Join or renew with the ARRL via the WRRRC. That helps make our coffers grow.
- ♦ Tell a fellow Ham about our club, even offer to bring them to a meeting.
- ♦ Share an idea with one of the club officers:
  - A possible program topic
  - Ideas for making this newsletter a better one
  - A new operating event
  - Ideas for making this club a better one

There, that should do it for this issue. I can hear that sigh of relief.

May you and your families all have a blessed Christmas season – that’s right, I am not a PC kind of guy. If I don’t see you at the annual

meeting, then I'll look forward to an eyeball sometime soon in 2007.

73,

Darrel – K1KU

Chief Editor: Digital Dispatch



## ORIGINS OF OUR NICKNAME Part II

(As promised, here's even more information concerning who we came to be known as Hams. And again, thanks to the AC6V website and, specifically Gary Coffman KE4ZV, for the below.)

**A**nother story you may hear is that it comes from a landline telegrapher's insult. Many operators of the day came from a landline background, and on the landlines a common insult was that someone was "ham fisted" in his sending. It is possible that commercial operators used this slang to refer to amateurs and it caught on.

Certainly, the term LID came from landline telegrapher slang. (LID was a reference to use of a tobacco can lid on the sounder to aid a poor operator in copying Morse.) This one may be true. It wouldn't be the first time that a group adopted a term originally meant as an insult to serve as a slang term for themselves.

But the one I like best goes like this. This era was filled with pulp magazines catering to the experimenter. (Everyone at the end of the Victorian age apparently viewed himself as a closet inventor or tinkerer.) One of these

magazines was called Home Amateur Mechanic, and it featured many simple radio sets a person could build. It is likely that when asked what kind of radio an operator was using, he might send back RIG HR ES HAM, meaning that it was one of the circuits shown in Home Amateur Mechanic magazine.

Since telegraphers tend to abbreviate everything, due to the low throughput of Morse, this is plausible, and Home Amateur Mechanic magazine certainly did exist in the correct era. So it was those HAM radios which started the use of ham in amateur radio.

Stay tuned, as more theories are yet to come.



## RACES CONFERENCE

**O**n November 4 twelve WRRC members attended the third annual RACES conference at the Vermont Police Academy in Pittsford.

NITOX, John	K1KU, Darrel
KB1LQB, Chas	W2NH, Gordon
N1JSG, Richard	KB1HCG,
MarkKB1KSR, Ed	KA1ZQX, Tim
N1HOS, Jack	KA1TWV, Elaine
AA1T, Grant	KB1IIX, Bruce

75 RACES members (out of a total of 151 statewide members) from all over VT were in attendance and not only did we have fun and eat well, but we also managed to learn a lot from assorted workshops during the day.

Some of the early arrivers soon had an antenna strung up and rigs wired for NITOX, John's great presentation on remote operation of your rig at home. OK, Murphy did his thing, but in true Ham fashion the problem got solved so that John could transmit/receive on his 1000MP in Guilford, VT. And all this via a cell phone no less.

Besides another talk on Disaster Response Field Packs by NITOX the attendees also learned



about programming the elusive ICOM 706, plans for a stateside wide database linking all emergency agencies, and an overview of Winlink 2K.

The day closed off with a table top exercise in which the participants “took traffic” and filled out several assorted VEM forms that we use during our VY drills.

Did I hear you say that you’re interested in joining the RACES program? Why would you want to miss out on the fun, excitement, and pleasure derived from helping to fulfill our Part 97 obligation to provide public service? If you feel so moved it’s as easy as letting John, N1TOX, or I know of your interest. ([n1tox@adelphia.net](mailto:n1tox@adelphia.net) – [kl7dn@sover.net](mailto:kl7dn@sover.net)) We’ll let the good people up at VEM in Waterbury know of your desire and an application will soon be in the mail.

Here’s a picture sampling of some of our stalwart members at the conference.



N1TOX, John & KB1HCG, Mark getting set up



W2NH, Gordon telling Chris Knox, N1GBB, how it all works.



KB1LQB, Chas & AA1T, Grant

## RACES DRILL

Speaking of RACES - On the rainy, dank day of Wednesday, November 8 the below listed members of the WRRC did take part in yet another VY drill. Our thanks to these fellow Hams who go the extra mile in fulfilling an important reason for our existence as stated in Part 97 of the FCC rules.

N1TOX, John	NIHOS, Jack
KB1LQB, Chas	W2NH, Gordon
KB1HCG, Mark	KA1TWV, Elaine
K1KU, Darrel	AA1T, Grant
N1JSG, Richard	W1WOL, Bill

KA1ZQX, Tim      N1HLG, John Gladding  
(GMWS/Rutland)

Besides having fun and enjoying some great sub sandwiches at lunchtime we all experienced a greater reward, namely, helping to fulfill our obligation to do our bit for emergency communications.

Elsewhere in this rag you'll find photos of some of the wet participants.



KB1HCG, Mark-KB1LQB, Chas-W2NH, Gordon-N1HOS, Jack. Are they having fun or what?



N1JSG Richard-W1WOL, Bill

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## WANTED/FOR SALE

**D**uring the recent RACES conference I was approached by W1WOL, Bill. It turns out that he is looking for a dual

band rig (2 meter/440), base or mobile. I was truly relieved as I thought that he might want \$20 or so to tide him over until payday.

And now for the “would you believe” part of this - At the last RACES drill KB1HCG, Mark asked me to list his ICOM 2720 dual bander in this issue as being for sale.

So, Bill (or anyone else) – contact Mark, KB1HCG, at [KB1HCG@sover.net](mailto:KB1HCG@sover.net) (his new Email address) or 802-254-7770. As for you, Mark, you can reach Bill at [Mitchell@vermontel.net](mailto:Mitchell@vermontel.net).

My always fertile mind (stop laughing) almost immediately conjectured up the possibility of another monthly column for the Digital Digest. We already have an excellent swap and sale page on the web site, but maybe what you're looking for isn't listed there.

If not I'd be glad to list any Ham related desires in the newsletter. I'd also show items that you might want to be rid of, again, of a Ham related nature. I refuse to list your butterfly collection or that jar of belly button lint sitting on your mantle. Just give me a shout at [kl7dn@sover.net](mailto:kl7dn@sover.net)



## THE OFFICE CHRISTMAS PARTY

FROM: Pat Lewis, Human Resources Director  
TO: Everyone  
RE: Christmas Party  
DATE: December 1

I'm happy to inform you that the company Christmas Party will take December 23, starting at noon in the banquet room at Luigi's Open Pit Barbecue.

No-host bar, but plenty of egnog! We'll have a small band playing traditional carols . . . Feel free to sing a long. And don't be surprised if our CEO shows up dressed as Santa Claus!

---

FROM: Pat Lewis, Human Resources Director  
TO: Everyone  
DATE: December 2  
RE: Christmas Party

In no way was yesterday's memo intended to exclude our Jewish employees. We recognize that Chanukah is an important holiday that often coincides with Christmas, though unfortunately not this year. However, from now on we're calling it our "Holiday Party." The same policy applies to employees who are celebrating Kwanzaa at this time. Happy now?

---

FROM: Pat Lewis, Human Resources Director  
TO: Everyone  
DATE: December 3  
RE: Holiday Party

Regarding the note I received from a member of Alcoholics Anonymous requesting a non-drinking table - You didn't sign your name. I'm happy to accommodate this request, but if I put a sign on a table that reads, "AA Only"; you wouldn't be anonymous anymore. How am I supposed to handle this? Somebody?

---

FROM: Pat Lewis, Human Resources Director  
TO: Everyone  
DATE: December 7  
RE: Holiday Party

What a diverse company we are! I had no idea that December 20 begins the Muslim holy month of Ramadan, which forbids eating, and drinking during daylight hours.

There goes the party! Seriously, we can appreciate how a luncheon this time of year does not accommodate our Muslim employees' beliefs. Perhaps Luigi's can hold off on serving your meal until the end of the party-the days are so short this time of year-or else package everything for take-home in little foil swans. Will that work?

Meanwhile, I've arranged for members of Overeaters Anonymous to sit farthest from the dessert buffet and pregnant women will get the table closest to the rest rooms. Did I miss anything?

---

FROM: Pat Lewis, Human Resources Director  
TO: Everyone  
DATE: December 8  
RE: Holiday Party

So December 22 marks the Winter Solstice. What do you expect me to do, a tap-dance on your heads? Fire regulations at Luigi's prohibit the burning of sage by our "earth-based Goddess-worshipping" employees, but we'll try to accommodate your shamanic drumming circle during the band's breaks. Okay???

---

FROM: Pat Lewis, Human Resources Director  
TO: Everyone  
Date: December 9  
RE: Holiday Party

People, people, nothing sinister was intended by having our CEO dress up like Santa Claus! Even if the anagram of "Santa" does happen to be "Satan," there is no evil connotation to our own "little man in a red suit."



It's a tradition, folks, like sugar shock at Halloween or family feuds over the Thanksgiving turkey or broken hearts on Valentine's Day.

Could we lighten up?

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FROM: Pat Lewis, Human Resources Director  
TO: Everyone  
DATE: December 10  
RE: Holiday Party

Vegetarians!?!?!? I've had it with you people!!! We're going to keep this party at Luigi's Open Pit Barbecue whether you like it or not, so you can sit quietly at the table furthest from the "grill of death," as you so quaintly put it, and you'll get your #\$\$%^&\*! salad bar, including hydroponic tomatoes, but, you know, they have feelings, too.

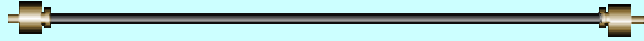
Tomatoes scream when you slice them. I've heard them scream, I'm hearing them scream right now!

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FROM: Teri Bishops, Acting Human Resources Director  
TO: Everyone  
DATE: December 14  
RE: Pat Lewis and Holiday Party



I'm sure I speak for all of us in wishing Pat Lewis a speedy recovery from her stress-related illness and I'll continue to forward your cards to her at the sanitarium. In the meantime, management has decided to cancel our Holiday Party and give everyone the afternoon of the 23rd off with full pay



## DECEMBER DOINGS (Es looking ahead)

- ◆ **December 2** – WA1CUV, Father Coomb's birthday
- ◆ **December 9** – Annual meeting, pot luck and mini ham fest at Grace Cottage Hospital. This year's festivities are being headed up by Jeanette, N1REB. [n1reb@sover.net](mailto:n1reb@sover.net) Please RSVP
- ◆ **December 13** - K1VNE, Tom's birthday
- ◆ **December 23** – KA1EYD, John's birthday
- ◆ **January 27** – Board of Director's meeting at Brattleboro House of Pizza next to Staples. 11:30 AM
- ◆ **January, 2007** – Another club dine out to help banish those cabin fever blues headed up by David, N1ESK. [n1esk@sover.net](mailto:n1esk@sover.net)



## WE HATE LINES TOO

I've seen that sub title on mailings from the Vermont Department of Motor Vehicles. The moral – register early and you won't have to stand in line at the last minute to make your vehicle a legal one.

Now we don't have as many members as there are registered car owners in the state of Vermont, but it still helps to renew that 2007 membership in the WRRC early.

Allow me to quote from by-laws. "Dues are payable on the 1<sup>st</sup> of January of each year. Non-payment of such dues or assessments by January

31 in any given year shall be cause for removal from the roster."

Astute readers will notice that nothing is said about paying a tad early. So, whether paying early, right on time, or (heaven forbid) a little late, here's how it can be done.

- Mail a check for \$10 to the club Secretary/Treasurer. You can make the check out for \$15 if you want to add a family member to our roster. Keep me honest and make the check out to
- WRRC  
Darrel Daley  
POB 445  
Putney, VT 05346
- If you'll be attending the annual meeting you can pay me there.

Notes of interest: We do not pro rate our dues. Translated, that means that if you pay your dues in January of any year your membership lasts until December 31 of that year. If you pay your dues in February, March, April, etc. of any year your membership lasts until December 31 of that year.

Further inquiries can be directed to me at [kl7dn@sover.net](mailto:kl7dn@sover.net)

CUL es 73 de K1KU SK

