



# WEST RIVER RADIO CLUB

## DIGITAL DISPATCH

### October – 2006



**Volume 1**

**Issue #9**

**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 five 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

### October 2006

#### *Emergency Communications*

**E**mergency Communications is one of the many tasks an Amateur Radio Operator takes on with pride. Whether it is a drill, or a real emergency, the operators come out with their equipment and knowledge, to help those who cannot help themselves and to aid the general public from danger. As we know with the VEM RACES program, we have four (4) Vermont Yankee Drills per year. With the Vermont Health Care Network starting up, we will have more drills and responsibilities coming soon to provide support to the VEM RACES Program. With these drills, we are making Emergency



Communications stronger within the State of Vermont, and even the neighboring states with mutual aid calls. We do shine with our efforts, and I am grateful for everyone that is involved.

Why and I writing about EmComm? In August, time of the original writing of this article, it was the anniversary of Hurricanes Katrina and Rita which was a great example of how Hams makes EmComm work. Hams helped out at ground zero, and from their homes world wide, to relay messages of well being or to get needed help. Both RACES and ARES programs helped out greatly with this effort.

Now, if you are an ARES member and read the August ARES E-Letter, a ham from southern Texas, Jerry Reimer, KK5CA, proposes to say goodbye to RACES and suggests dissolving the program. For the complete reading on the topic, look toward the end of the letter for "OPINION: DELETE RACES?" at the following address: <http://www.arrl.org/FandES/field/ares-el/index.html?issue=2006-08-16> . Jerry is the South Texas SEC for ARES. I, for one, disagree with this opinion. David Cain - WIDEC has written a great reply in support of the VT RACES program, and I am sure that more states followed with their replies too as the ARRL said that their systems were overloaded with comments. Watch for the October ARES e-letter from the league in mid October, it's going to be one hot issue.

It is true that ARES is big in the south and other states, but we know that RACES is large in this area, hands down! The RACES program is needed here because of the focus of work we have in place with VEM, FEMA, along with other government organizations. There are a larger number of hams in the south to rely upon,

as in comparison to the north. This is one thing that makes these programs work. In New England the numbers are limited due to the population, the number of hams, EmComm participation, and geography. In Vermont, we have 140 ARES and 127 RACES members to draw upon. Remember, most of the RACES members are also ARES members and dual membership is suggested by both programs within the state. If you are interested in getting involved with Emergency Communications, please let me know and we will get you enrolled. I for one, along with all the RACES / ARES members at WRRC, am very proud of our EmComm team and who we serve. We are making EmComm work in Vermont. Come join us!! It would be great to have everyone join in! Who knows, the one you help could be your neighbor or friend.

Until our next meeting

73,

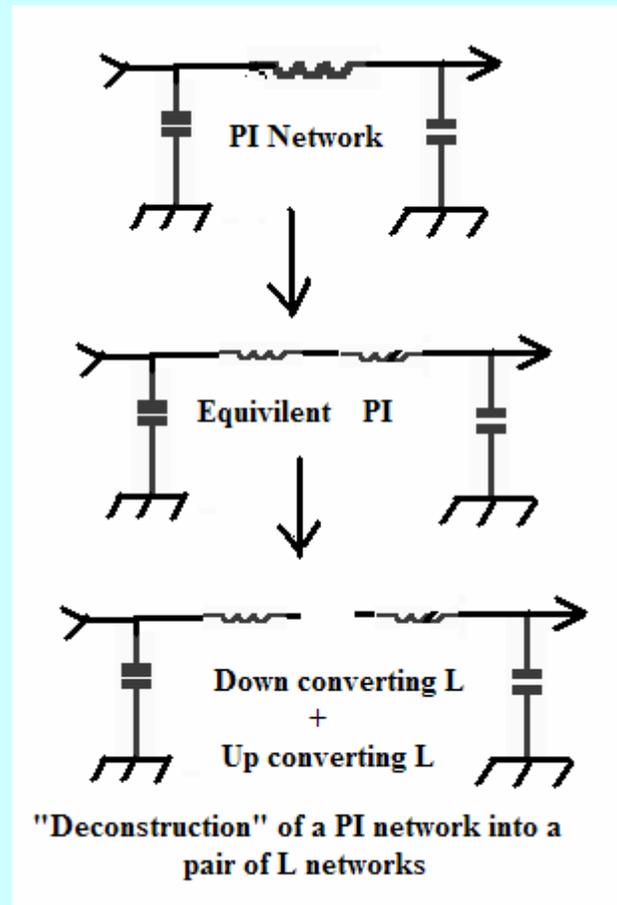
John Borichevsky – N1TOX  
President – West River Radio Club



## The PI Matching Network

The PI matching network is a common circuit for matching the output of a transmitter to a feed line. It is most commonly used to match a tube type final to the feed line. As the following diagram shows, the PI network can be viewed as two L networks in series. The first L has the impedance step down configuration while the second L has the step up arrangement. The output impedance of the first L must be lower than the impedance presented by the feed line so the second L is able to step up the impedance to the required output impedance to match the load presented by the feed line.

The circuits shown are low pass networks but they could just as well have been high pass networks.



A significant characteristic of a matching network is its Q. While one wants high Q components to avoid wasting power as heat in the component, one wants a low Q network so that circulating currents are as small as possible and thus produce a minimum amount of lost power (heat). The Q of a PI network can be no lower than an L network having the same impedance transformation, but it can be higher. The impact of a higher Q network besides lower efficiency is a narrower band width. Since matching networks are also filters (a property we usually ignore) the frequency band the network will pass and still maintain an acceptable match is narrower the higher the Q. The fact that the PI converts to an impedance lower than the final output impedance to match the load presented by the feed line is a hint that the Q of the circuit is often higher than that of the L network.

The PI network is often found in transmitters with tubes as the final amplifying device since tubes have a relatively high output impedance.

The high to low transformation of the first part of the network is appropriate for power sources with a higher output impedance.

The PI network is most often found in its low pass form. The Tee as we shall see in the next installment of this saga is usually found in the high pass form. The reason is economics. Variable inductances are more expensive than variable capacitors so the number required is kept to a minimum. Though the matching network is a filter, we'll let the filter network that precedes the matching network do the filtering chores since these networks do not have variable components.



## MOVERS & SHAKERS KB1NXN, Emily Andrews

(Ed Note: This is the first of what I hope to be a continuing series of features in the Digital Dispatch. How better to learn about our fellow members than to publish a short bio in each issue? So, trash your innate shyness and send me a short resume on yourself: Work experience, when licensed, special interests in and beyond Amateur Radio, etc. I asked Emily to write her own sketch below, but I'd be glad to do the composing if you don't feel like being an author. I just have to hear from you.)

I'm ten years old, and will be going into the fifth grade at Vernon Elementary School starting tomorrow, August 28. My favorite sports are rock climbing and gymnastics. I'd like to make a radio contact on a ham satellite. Maybe Dad could get me a radio and antenna?



When I didn't pass the test the first time, I thought oh well I can try again. When I passed last night I felt very happy. **I have to study the code now.** (Bold added. That's great!) Now I never ever have to take the technician test again.

Cool,

Emily Andrews

(Ed: the story below has been around for awhile, but I still get a laugh and at least a chuckle from re-reading it. I hope that you do, too.)

## ANTENNA GOES UP! HAM GOES DOWN! An Antenna Raising Accident

This Ham is sitting at his desk answering a letter from his insurance company. I am writing in response to your request for additional information for block No. 3 on the accident report form. I put "poor planning" as the cause of my accident. You said in your letter that I should explain more fully and I trust that the following details will be sufficient.

I am an amateur radio operator, and on the day of the accident I was working alone on the top section of my 80 foot tower. When I had completed my work, I discovered that I had, over the course of several trips up the tower, brought up about 300 pounds of tools and spare hardware. Rather than carry the now un-needed tools and materials down by hand, I decided to lower the items down in a small barrel by using a pulley, which fortunately was attached to the gin pole at the top of the tower.

Securing the rope at ground level, I went to the top of the tower and loaded the tools and materials into the barrel. Then I went back to the ground and untied the rope, holding it tightly to insure a slow descent of the 300 pounds of tools. You will note in block No. 11 of the accident report form that I weigh only 155 pounds.

Due to my surprise of being jerked off the ground so suddenly, I lost my presence of mind and forgot to let go of the rope. Needless to say, I proceeded at a rather rapid rate of speed up the side of the tower. In the vicinity of the 40-foot level, I met the barrel coming down. This explains my fractured skull and broken collarbone. Slowed only slightly, I continued my rapid ascent, not stopping until the fingers of my right hand were two knuckles deep into the pulley.

Fortunately, by this time, I had regained my presence of mind and was able to hold onto the rope in spite of my pain. At approximately the same time, however, the barrel of tools hit the ground and the bottom fell out of the barrel. Devoid of the weight of the tools, the barrel now weighed 20 pounds. I refer you again to my weight in block 11. As you might imagine, I began a rapid descent down the side of the tower, In the vicinity of the 40-foot level, I met the barrel coming up. This accounts for the two fractured ankles and the lacerations of my legs and lower body.

The encounter with the barrel slowed me enough to lessen my injuries. When I fell onto the pile of tools and fortunately, only three vertebrae were cracked. I am sorry to report, however, that as I lay there on the tools, in pain, unable to stand, and watching the barrel 80 feet above me - I again lost my presence of mind. I let go of the rope.

(From KEY KCLICKS (SANTA BARBARA & K4QFM) VIA FLORIDA SKIP & KOPP

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## OCTOBER DOINGS (Es looking ahead)

- ♦ **October 5** – AA1T, Grant's birthday
- ♦ **October 6** – 7. Hosstraders at the Hopkinton Fair Grounds. Check it all out at [www.hosstraders.com](http://www.hosstraders.com)
- ♦ **October 10** – WRRC meeting.
- ♦ **October 15** – KB1HCG, Mark's birthday
- ♦ **October 21** – K1EGL, Chuck's birthday
- ♦ **October** – **3<sup>rd</sup> weekend.** KB1MUF, Peter is setting things up for WRRC participation in JOTA
- ♦ **October 27** – KB1LQB, Chas' birthday
- ♦ **October 31** – WRRC Board of Director's meeting. 11 AM at the Brattleboro House of Pizza by Staples in Brattleboro.
- ♦ **October 31** – KB1IIX, Bruce's birthday

- ♦ **November 4** – RACES statewide convention Vermont Police Academy in Pittsfield, VT.
- ♦ **November 8** – RACES drill.
- ♦ **November 14** – WRRC regularly scheduled meeting: 7 PM in the EMT room at Grace Cottage Hospital.

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## BIG TIME THANKS

It's about time to send out a note of sincere appreciation to W2NH, Gordon, and KB1HCG, Mark, for the large amount of time and effort that they contribute to enhancing our VHF/UHF communication capabilities.

They've invested a lot of sweat in making, installing and maintaining repeaters, antennas, and links to improve our ability to interact, and without wires, to boot. Marconi would have liked it that way.

Below is a listing of machines we have at our use. Why not fire up a high band rig and find out what you can hit and from where. And, remember - the next time you break a squelch give a silent thanks to W2NH and KB1HCG.

Here is a list of what is working now

### Newfane Hill:

Transmit 147.090 PL 100.0

Receive 147.690 PL 100.0 and 110.9

Presently keys Walpole, Alstead and Athens repeaters

Transmit 444.700 PL 110.9

Receive 449.700 PL 110.9

Links full time to Killington and the UHF network

### Alstead: (Needs survey for coverage)

Transmit 147.690 PL 100.0 from

Receive 449.750 PL 110.9

Or

Transmit 444.750 PL 110.9 from

Receive 147.090 PL 100.0

**Athens:** (can be moved to new location)  
Limited - Grassy Brook Road valley

Transmit 147.690 PL 100.0 from  
Receive 440.775 PL 110.9  
Or  
Transmit 445.775 PL 110.9 from  
Receive 147.090 PL 100.0

Transmit 53.210 PL 110.9 experimental at  
present. Will be first from  
Receive 147.090 PL 100.0 later from 444.700,  
444.750, 444.850 and 445.775

**Walpole:**

Transmit 147.690 PL 100.0 from  
Receive 449.850 PL 110.9  
Or  
Transmit 444.850 PL 110.9 from  
Receive 147.090 PL 100.0



**NEED HELP?**

**W**e can't solve any personal problems,  
but for Ham and club related matters  
we'll try our darndest.

General club related matters: contact our  
President, John Borichevsky, N1TOX –  
[n1tox@adelphia.net](mailto:n1tox@adelphia.net) or 802-257-5526

Membership, ARRL renewals or joining the  
League, and financial information: contact  
Darrel Daley, K1KU, [k1ku@arrl.net](mailto:k1ku@arrl.net) or 802-  
387-5822

VE tests, club programs, or Ham classes:  
contact Sean Sanderson, KD6MPY,  
[kd6mpy@arrl.net](mailto:kd6mpy@arrl.net) or 413-695-5133

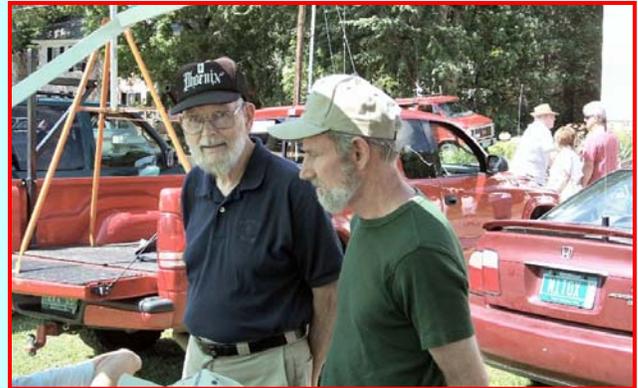
PR or ARES ideas? Contact  
Tim Bell, KA1ZQX at  
[ka1zqx@arrl.net](mailto:ka1zqx@arrl.net) or 802-365-  
7046



Also, surf to [www.westriverradio.net](http://www.westriverradio.net) where  
you'll find a wealth of information.

**ROGUE'S GALLERY**

**T**o close off this month's issue here's a  
look at some of our members who took  
part in the Grace Cottage Hospital Fair  
Day special event on August 5.



**KB1KSR, Ed & KB1J, Rich**



**N1TOX, John & AA1T, Grant**



**KB1LQB, Chas**

CUL es 73 de K1KU SK

