PCARA Update

Volume 6, Issue 1 Peekskill / Cortlandt Amateur Radio Association Inc. January 2005

It's still your choice

The 2004 PCARA Holiday Dinner was a huge success! We had a very good turnout and a good time was had by all. Thanks to Ray, W2CH and Marylyn, KC2NKU for making the arrangements and making sure everything went along as smoothly as possible. As a result of their efforts, they have been awarded the chairmanship for planning the 2005 PCARA Holiday Dinner. Congratulations!

As for the election, Joe, WA2MCR and I were nominated and re-elected Vice President and President respectively. Mike, N2HTT was nominated for Secretary/Treasurer but was unable to join us at the dinner to accept the nomination. The nomination and election for Secretary/Treasurer was tabled until the January 2, 2005 meeting at which time Mike might be able to accept his nomination.

I would like to wish everyone and their families a very Happy and Healthy New Year. Hope to see you all at the January 2nd meeting at Hudson Valley Hospital Center.

– 73 de Greg, KB2CQE

(Jan 2nd is also Kid's Day, 1800-2400 GMT – if you have any youngsters in the family, get them on the air! -Ed.)

Holiday Dinner

PCARA's annual holiday dinner and elections took place on Sunday December 5 *At The Reef* Restaurant. A good number of PCARA members, family and friends came together to celebrate the season in a very enjoyable way.

At the Reef *restaurant, located at the Annsville Circle.*

If it's not too late... Season's Greetings and a Happy New Year!

Contents

PCARA Officers

President:
Greg Appleyard, KB2CQE kb2cqe @ arrl.net
Vice President:
Joe Calabrese, WA2MCR; wa2mcr @ arrl.net
Secretary/Treasurer:
Mike Aiello, N2HTT; n2htt @ arrl.net

Antennas aplenty

PCARA members Ray W2CH and Marylyn KC2NKU recently left their Croton apartment to take up residence in the Town of Cortlandt. As a result, Ray is no longer restricted to indoor antennas and the family home now has a back yard full of tall trees, ready to hang antennas on. If the back yard is not enough, there is even more wooded land behind, rising to a height of 460 feet.

On Sunday December 12, a small work party consisting of Joe WA2MCR and your editor descended on Ray and Marylyn to size up the antenna situation and make a start on raising some radiators. There were a **lot** of trees in the back yard and one of the problems was finding a pair with a reasonably clear path between. Eventually we settled on two trees with nicely forked branches and 90 feet apart.

We used the slingshot approach to fire a monofilament fishing line over the chosen forked branch. The first tree was easy – the line curved over the selected branch, then by tying two lengths of successively heavier rope to the line it was possible to haul a suitable halyard into the tree.

Joe WA2MCR and Ray W2CH pull ropes into one of the trees at Ray's new location.

The same approach was going well with the second tree – after a couple of tries, the monofilament line sailed over the chosen branch and we started pulling up heavier ropes… then disaster! I had tied the second rope to the first rope and Joe was hauling the combination into the tree when the knot came undone and both ropes came falling to the ground. So much for my knot tying abilities! All I can say is that it was rather chilly.

Joe launched the line across the second tree and we were able to raise the ropes, then pull up Ray's first antenna at the new QTH. This was a G5RV on loan from Joe, fed with a combination of 300 ohm ribbon and coaxial cable. The feeder was brought inside and connected to Ray's Yaesu FT-897, followed by an SWR check and test QSO. Ray intends changing the HF antenna to a "Spi-Ro AS-2" all band dipole as reviewed in *QST* for December 2004.

Joe and Ray begin arranging the new wire antenna and feeder in Ray's yard.

Later in the week, Ray installed a Radio Shack discone antenna for operation on the VHF and UHF bands, so he is now active on all popular bands with outdoor antennas.

That sinking feeling

One of the items needed to launch monofilament line over a tree with a sling shot is a suitable weight. My favorite choice is a ¾ ounce lead fishing sinker. During our slingshot efforts, the monofilament line had broken and I lost two lead sinkers. This only left me with a single ¾ ounce lead sinker and I decided to replenish the stock ready for the next antenna raising. Joe, KR2V had introduced me to Wal-Mart as a source of sporting goods, from fishing supplies to GPS units. On my next visit to Wal-Mart, I was surprised to find that lead sinkers are no longer on sale.

The reason for the change is that when lead fishing sinkers are lost, water birds such as loons and swans can eat them and suffer lead poisoning. See http://www.moea.state.mn.us/reduce/sinkers.cfm for details. Since May 2004, New York State law has prohibited the sale of lead fishing sinkers weighing one-half ounce or less. Wal-Mart at Cortlandt Town Center now has sinkers made of either steel or of plastic-covered bismuth. The plastic covering is intended to hold the pieces together in case the brittle bismuth metal should shatter. In view of my success with hitting tree trunks instead of going over branches, I would say

Old style ¾ ounce lead sinker attached to monofilament nylon line alongside newer non-lead fishing sinkers.

the plastic coating was a necessity. Stay tuned for a report on the effectiveness of these new-style sinkers.

(For U.K. readers… a slingshot is American English for a catapult.)

- Malcolm, NM9J

Where to live

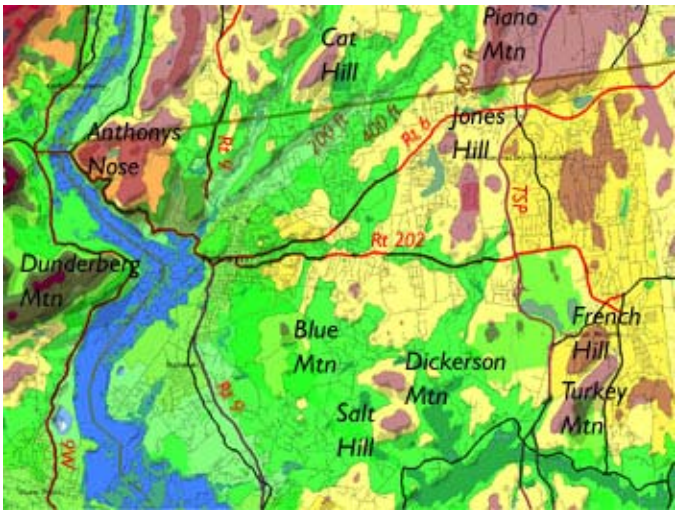
Do you remember the various repeater coverage maps that are featured on the PCARA publicity board? Some of those maps were produced with the help of some terrific, free software called "Radio Mobile", designed by VE2DBE. The idea behind Radio Mobile is that you first describe a VHF/UHF station in terms of frequency, antenna height above ground, polar diagram and antenna gain. You need to provide the location of the station followed by a source of digital data describing the height of the location and the surrounding terrain. Radio Mobile would then crunch the numbers and predict signal strength around the site, whether close-in or far away. In the days of slow, dial-up Internet connections, I was lucky to have a source of terrain data for our part of the world on the CD-ROM that accompanies West Mountain Radio's RIGblaster products.

In order to relate the radio coverage map to familiar features such as towns, roads and coastlines, it was possible to overlay a regular street map. I would generate a map to the correct dimensions from mapping software such as DeLorme's *Street Atlas USA*. Doing all this accurately was quite tricky but the final results were well worthwhile.

Radio Mobile has moved on by several versions since those early plots were produced. At the time of writing, Roger VE2DBE had made v 6.1.6 of Radio Mobile available. With the advent of high speed network connections it is quite feasible to pull down the terrain data, digital street maps and satellite photos on-demand from the Internet and overlay everything to automatically fit over the calculated coverage map.

This all makes Radio Mobile a lot easier to use. If you are interested in predicting VHF/UHF coverage of your own station, or of a repeater, I would recommend downloading the necessary software from the Radio Mobile web-site. Start at http://www.cplus.org/rmw/english1.html then click on the "Download" link and follow the instructions. Your first try at generating a coverage pattern will be the toughest, so follow along with one of the "Getting started" guides, for example http://www.cplus.org/rmw/getting_started.html (bear in mind this refers to an earlier version) or http://pizon.org/rmw/index.html.

Radio Mobile isn't just good for predicting repeater coverage… you can also produce some excellent general purpose maps. Not too long ago, Greg KB2CQE and I were searching for possible VHF/UHF locations in our area. This involved a careful analysis of Geological Survey quadrangle maps for Peekskill and Mohegan Lake to find accessible high spots. Nowadays, if you want height, you can simply ask Radio Mobile to download Shuttle Radar Topography data and color in between the contours to your liking. You can then overlay a downloaded street map to see if the location is drivable. The plot shown below is for the Peekskill/Cortlandt area with contours at 200 foot intervals, colored from light green to dark brown. The picture size was reduced to keep the download time reasonable, but the full-size version looks very impressive. Is your QTH over 400 feet? Over 600 feet? Over 800 feet? If over 1000 feet, contact PCARA at P.O. Box 146.



Contour map of Peekskill/Cortlandt area produced by Radio Mobile software, with 200 foot (61 meter) interval. Light green 0-200 ft, dark green 200-400 ft, yellow 400-600 ft, light brown 600-800 ft, mid-brown 800-1000 ft, dark brown over 1000ft.

- NM9J

Wi Sci Fi

I had ordered a new gadget from one of those Internet shopping sites that offer end of line and surplus equipment – something like http://www.sciplus.com. The item I had seen was called "RF Spex" and it promised to show the presence of radio frequency energy from the electromagnetic spectrum. As I sent the order across the Internet from the company's express shopping page, I had a fifty year flashback to the movie "This Island Earth". That's the one where physicist Cal Meacham, played by Rex Reason, has his technician send off a teletype order for XC condensers from a strange catalog, then receives mysterious tiny components with a much higher voltage rating than anybody would have expected in 1955. The next teletype order brings Dr. Meacham all the parts to assemble an "Interocitor" – a test of intelligence and a way of communicating with aliens… but that's another story.

A few days later, the RF Spex arrived. The box was a little mysterious… there was no UPS label, no return address and no packing slip. Inside the package was what looked like a pair of mirror-finish sunglasses. The side-arms had a rough surface on the outside edges – rather like a touch-sensitive mouse. I picked through the packing material but there was no sign of an instruction manual, not even a CD-ROM with a PDF file.

"The box was a little mysterious."

I picked up the RF Spex and put them on. At first they were completely opaque, but as I got used to the dark I could see tiny type scrolling up the left lens – it looked like a Linux system booting up. A few seconds later, both lenses flashed and I could see a very dark and very fuzzy image of the kitchen where I stood. Raising the lenses and putting them back confirmed that I was seeing the kitchen… but the colors were all wrong, and the light and dark areas were very odd. Flat, metal objects were bright, while water, wood and stone were darker.

There was "light" flooding in through the window – but it did not just come through the window, it seemed to be bending round the edges and penetrating the walls as well. As I looked around the kitchen, I could see other sources of illumination. Almost every electronic item was surrounded by a dim red glow… from the answering machine on the wall, from the timer on the oven, from the thermostat and from the wall clock. The weather radio had the same red glow, but there was also a hint of orange around the antenna.

I guessed that the RF Spex were showing me sources of radio frequency energy in the kitchen. As a test, I put a cup of water in the microwave oven and turned it on – oh my goodness! There was a flood of brilliant blue light from the oven – so bright that I had to tear off the glasses and let my eyes become "dark accustomed" to the everyday light. I promised myself I wouldn't try that again.

Perhaps the colors were a clue? Maybe red represented lower frequency radio waves while blue represented higher frequency radiation from the microwave oven. I picked up my HT, switched to low power and put the RF Spex back on. Transmitting on 2 meters produced a bright orange glow, surrounding the antenna – and the radio – and my hand! Changing bands from 146 to 440 MHz produced a green glow in place of the orange.

So my guess about the colors was confirmed. Red was for the lower frequencies, orange was VHF, green was UHF and blue was microwave. On a hunch, I tried adjusting the controls on the arms of the RF Spex… the left slider seemed to be an RF gain control, allowing me to dim the very strong sources and brighten up the weak ones. The right slider was a bandwidth control – adjusting this slider would narrow and widen the frequency response, allowing me to concentrate on a narrower range of frequencies.

I took a walk outside and put on the RF Spex… the surroundings were bathed in an eery light, that was not coming from the sky. Instead there was a deep red pulsing glow from the northwest horizon and a steady brilliant orange light from the north. It did not take long to work out that the deep red glow was the local AM broadcast station running 5 kilowatts on 1420 kHz, and the bright orange light was the 50kW 100.7 MHz

"Transmitting on 2 meters produced a bright orange glow, surrounding the antenna – and the radio – and my hand!"

VHF station on top of a hill three miles away. These two points seemed to be the source of most of the background "light" that was illuminating my surroundings and that I had earlier noticed coming in through the kitchen window.

Glancing round the nearby houses, I noticed some other sources of light. From time to time there would be a bright blue light that came on for a few minutes then went off – it was lunchtime and I was seeing more micro-wave ovens! Some other houses had dim blue lights that flashed on and off continuously. I wondered what they might be, and then realized this must be a frequency close to the 2.45 GHz microwave oven… I was seeing the handshakes from 2.4 GHz wireless LANs. I could also see some dim orange, green and blue lights that were moving around inside people's homes – some of the lights stayed on continuously while others were brighter and pulsed rapidly on and off. A car went by with a pulsing green light inside – then I realized that the pulsing lights were cell phones and the continuous moving lights were wireless phones.

I looked up at the utility poles along my street and saw an orange red glow around one of the insulators – so that was where my power line noise was coming from! I made a note of the pole number. Looking up at the dark sky, I could see short bursts of orange light, varying in brightness – lifting the sunglasses up, I realized that these were VHF-AM transmissions from the aircraft that criss-cross the skies over our town. I heard a siren passing the end of the street and saw a bright orange glow coming from the antenna on the roof – an ambulance on the way to the local hospital, transmitting details of the patient's condition.

I realized that our modern world is bathed in radio frequency radiation from a variety of sources. Returning to the kitchen, I even saw a green glow from the antenna on my wireless phone's base station as it started to ring.

"There was a deep red pulsing glow from the northwest horizon and a steady brilliant orange light from the north."

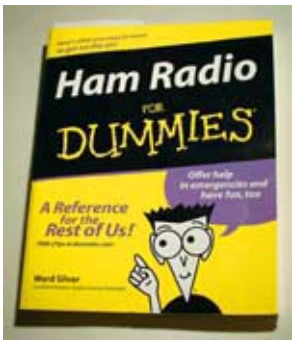
It would be an understatement to say I was impressed by the RF Spex. Very carefully, I took them off and placed them back in their anonymous box. There was no on/off switch, but I did hear a gentle click as the lenses went back to black. Then a strange thing happened… I saw a message scrolling across the front of the lenses… "RF Spex… Brought to you by FutrVision… 22nd century technology today…". The lenses faded away, the frames disappeared and the box dissolved as though it had never been!

Was it time travel? Were the aliens trying to contact this island earth again? Did I pass their test? Maybe not… Are you still out there Essex?

- NM9J

Dummy loads for dummies?

Most people are familiar with the "For Dummies" books, formerly published by IDG and now produced by Wiley. First there was "DOS for Dummies" in 1991. The title might be a bit of an insult, but this was one of the first books to explain a highly technical subject to a non-specialist audience, using simple explanations written in plain English.



Several hundred titles later, there is now "Ham Radio for Dummies", written by Ward Silver, N0AX. This is a well-written introduction to our hobby, fully up-to-date with information on APRS, PSK31, QRP and the latest choices of equipment. It may not be on every radio amateur's bookshelf, but it could make a really helpful present for that friend or colleague who has always been meaning to get involved in the hobby! Look for a copy at your favorite bookstore in the Science/Technology/Engineering section.

Peekskill / Cortlandt Amateur Radio Association

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Newsletter contributions are always very welcome!
Archive: http://home.computer.net/~pcara/newslett.htm

PCARA Information

PCARA is a **Non-Profit Community Service Organization.** PCARA meetings take place the first Sunday of each month at 3:00 p.m. in Dining Room B of the Hudson Valley Hospital Center, Route 202, Cortlandt Manor, NY 10567. Drive round behind the main hospital building and enter from the rear (look for the oxygen tanks). Talk-in is available on the 146.67 repeater.

PCARA Repeaters

W2NYW:	146.67 MHz -0.6, PL 156.7Hz
KB2CQE:	449.925MHz -5.0, PL 179.9Hz
	(IRLP node: **4214)**
N2CBH:	448.725MHz -5.0, PL 107.2Hz

PCARA Calendar

Sun Jan 2: December meeting, HVHC, 3:00 p.m.

Hamfests

Sun Jan 9 2005: Ham Radio University and ARRL NYC/LI Section Convention, Briarcliffe College, 1055 Stewart Ave., Bethpage, NY. 8:00 a.m.

VE Test Sessions

Jan 2: Yonkers ARC, Yonkers Police Dept., 1st Precinct, E Grassy Sprain Rd, 8:30 A.M. Contact: D. Calabrese, (914) 667-0587.
Jan 10: Split Rock ARA, Hopatcong High School, Rm C-1, Hopatcong NJ. 7:00 p.m. Contact Sid Markowitz, 973 724-2378.
Jan 21: Bergen ARA, Westwood Reg HS, 701 Ridgewood Rd., Washington Twnshp NJ. 7:00 p.m. Contact Donald Younger 201 265-6583.
Jan 31: Columbia Univ ARC, Watson Labs, 612 W 115th St. New York, NY, 6:30 p.m. Contact Alan Crosswell, 212 854-3754.

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