



PCARA Update



Volume 7, Issue 11

Peekskill / Cortlandt Amateur Radio Association Inc.

November 2006

Essential₂ the season?

Just a reminder that the 2006 PCARA Annual Holiday Dinner will be held on December 3, 2006 at *At the Reef* in Annsville. We will gather at 3:00 PM to enjoy each others' company and revel in the spirit of the season. Please consider joining us, inviting significant others, family members and friends (might help to get them interested in Amateur Radio). The cost is \$25.00 per person with drinks (CH₃CH₂OH) being extra. Pre-payment in **cash** is due by Sunday November 5, 2006, which just happens to be the date of our next meeting. Please give the money to Ray, W2CH or Marylyn, KC2NKKU at the meeting. *[Menu on p 4. -Ed.]*

It's that time of year again for nominations of officers. Please consider nominating someone for office or throwing you own hat into the ring. As you know we're still in need of a Secretary/Treasurer. Please give it some thought.

The foxhunt with Karl, N2KZ was a big success! Karl was up to his old tricks again, broadcasting from a higher plane. It seemed that everyone had a great time with many folks eventually finding the fox! Well done to all the participants.

I look forward to seeing each of you at the November 5th meeting at Hudson Valley Hospital Center. As always, please bring your thoughts, ideas, and suggestions.

- 73 de Greg, KB2CQE

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Congratulations

Congratulations to Marylyn, KC2NKKU for passing the Element 3 General paper at BARA's V.E. test session, at the Bergen ARA Hamfest on Saturday September 30.



L to R Joe WA2MCR, Mike N2EAB, Marylyn with brand new CSCE and Ray, W2CH at the Bergen Hamfest.

Net night change

For several weeks, Karl N2KZ has been coordinating the PCARA weekly net on the 146.670 MHz repeater. Karl is no longer available on Thursdays, so after consultation, the net night is being changed to **Wednesday evening**, starting **Nov 1**. Please call in at 8:00 p.m. EST on the 146.67 MHz repeater. Members, friends and visiting amateurs are welcome.

PCARA Officers

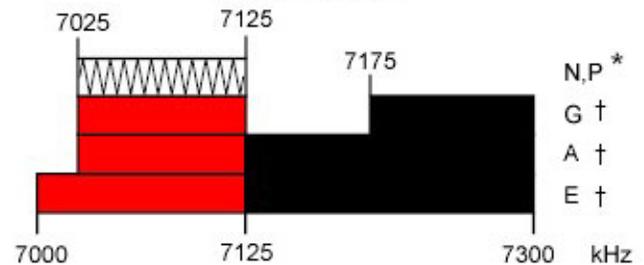
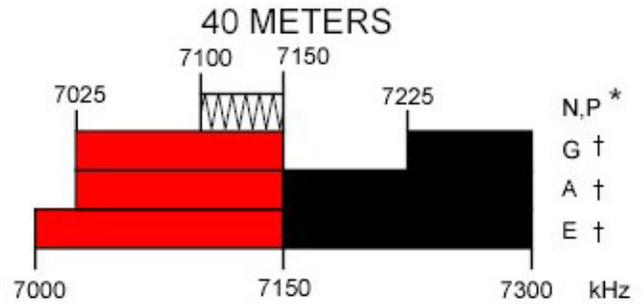
President:
 Greg Appleyard, KB2CQE kb2cqe at arrl.net
 Vice President:
 Joe Calabrese, WA2MCR; wa2mcr at arrl.net
 Secretary/Treasurer: *open.*

Adventures in DXing

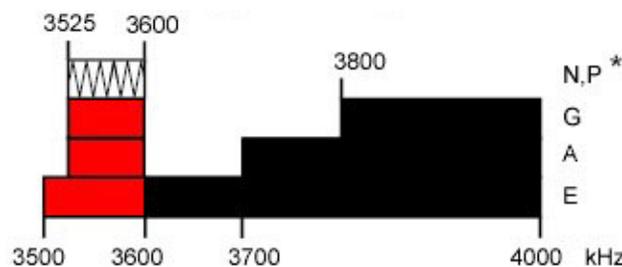
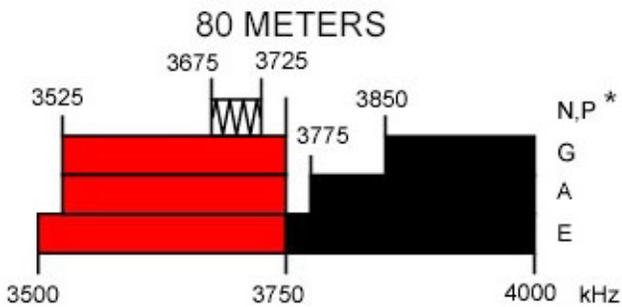
– N2KZ

Cozy Code Consolidation

Change is inevitable and the world of CW is about to change. The FCC will soon adopt new band allocations that will condense the exclusive digital spectrum space on three amateur radio bands. The line of demarcation for CW, RTTY and data on 80 meters will be rolled back from 3750 to 3600 kHz. 40 meters will be adjusted only 25 kHz to the left from 7150 to 7125 kHz. Along with these adjustments, Novice and Tech Plus licensees will now be able to operate within the General class CW allocations on 80, 40 and 15 meters. This is a huge gain of spectrum especially on 40 meters where their domain doubles in size. Novices and Tech Plus operators nearly double their space on 15 meters, as well. Generals, Advanced and Extra Class hams will need to adapt to new cozy bands that have shrunk dramatically.



40 meters “before” and “after” the FCC Report and Order changes. Same color code as on the 80 meter charts. The ‘zig-zag’ bar shows the CW-only privileges for Novice (N) and Tech Plus (P) licensees.



80 meters “before” and “after” the FCC Report and Order changes, from ARRL band charts. Red shows CW, RTTY and Data mode privileges for General (G), Advanced (A) and Extra (E) licensees. Black shows Phone, CW and Image.

The real story will unfold after the new allocations become effective. Will new spectrum areas be dedicated, by gentleman’s agreement, for use by Novices and Tech Plus operators? Will new Morse operators find themselves comfortable or intimidated by sharing space with “the big boys?” Where will the 80 meter CW nets go? What happens to the 80 meter crowd who operate on the computer clock crystal frequency 3686.4 kHz?

Will they all have to move to the TV color burst frequency 3579.5 kHz? Will there be a new interest in upgrading to Extra Class to avoid the new clutter above? How will CW clubs, like FISTS, react to the new rules? On a personal note, I am losing the place of my birth. My very first QSO was in the 80 meter CW Novice band at 3700 kHz. The sounds of SSB “quacky ducks” will inherit this frequency shortly. A useful summary of all the aspects of this pending FCC rule change can be found at: <http://www.arrl.org/news/stories/2006/10/11/100/>

The upcoming ARRL 2006 CW Sweepstakes contest may be your last opportunity to use the current digital allocations in an intense competitive atmosphere. The contest begins at 2100 UTC on Saturday, November 4 and continues until 0300 UTC Monday, November 6. You can operate any 24 hours during this time span. Full rules can be found at: <http://www.arrl.org/contests/rules/2006/novss.html>. Contest rules describe “low power” as up to 150 watts and “QRP” below 5 watts. For me, 5 watts is major QRO. It’s all a matter of perspective!

Thursday Night Net

The weekly PCARA 2 meter net continues to gain popularity. On October 12, we enjoyed a fine turn-out during our first half-hour. After two rounds of comments from all our check-ins, we reconvened on 50.090 MHz 6 meter CW to test our reception of N2EAB’s homebrew transceiver. Mike’s two watt wonder was well-heard across the county at my QTH near Golden’s Bridge. I also heard the potent signal of Malcolm,



One of Mike, N2EAB's many construction projects is featured on this QSL.

NM9J. Mike and I enjoyed a nice QRP CW QSO each operating at around two watts. I was using a Yaesu FT-690RII transceiver loaned to me by my pal Lonnie, NY2LJ. My antenna was a homebrew folded dipole, designed by MFJ, tacked up in my attic! Great fun was had by all! Join the fun, now rescheduled for every Wednesday at 8 pm on the PCARA repeater at 146.67 MHz, minus 600 kHz offset, 156.7 PL. Why not invite unlicensed newcomers to listen in? All they need is a scanner to enjoy our chats.



Yaesu FT690R MkII transceiver for 6 meters covers 50-54 MHz with FM/SSB/CW modes at 2.5W output.

Six Meter Magic

Speaking of six meters, I discovered a useful site that describes the location and frequency of many six meter beacon operators around North America: <http://www.k9mu.com/map.html>. Listening to beacon frequencies can serve as an early warning system announcing potential band openings. If you can hear a beacon chances are hams in that area can hear you! One local beacon is heard regularly throughout our region and is useful as a means of comparing receiver performance. Look for K2ZD/B on 50.068 MHz broadcasting in CW with 20 watts from Union City, New Jersey (grid FN20.)

I also experimented with six meter FM operation. I found three local repeaters that are available for use. The Rockland Repeater Association ([http://](http://www.rra.net/)

www.rra.net/) operates on 52.37 in, 53.37 out with a 88.5 PL. The Mount Beacon ARC (<http://www.wr2abb.org/Repeaters.htm>) operates on 52.31 in, 53.31 out with a 114.8 PL. The FDNY ARG operates on 52.41 in, 53.41 out with a PL of 136.5. I managed to "hit" the first two repeaters with a simple whip antenna attached to my Yaesu FT-690RII portable. Try <http://www.nyrepeaters.com/> for detailed lists of all the VHF and UHF repeaters in our area.

Six meters also provides a DX opportunity for those who have not yet passed the dreaded Element 1 of amateur radio examinations. Any Technician class licensee can operate on-the-air in Morse on six meters and work the world! It is the lowest frequency band Techs can use without passing a five-word-per-minute Morse code test. What a great place to practice your CW skills! Antennas for this band are relatively small, too. Pass the code test and you can migrate down to HF where more fun awaits!

Digital Developments

The world of digital television continues to develop in the New York metropolitan area. New this month are strong signals from WNJU-DT in standard definition digital on channel 36-1 or 36-3; and WMBC-DT on channel 18 (virtual channel 63-1). Paxton's WPXN-DT is promoting a new children's programming channel called "qubo" on virtual channel 31-2 transmitted on channel 30. It's "coming in early 2007."



Only weak signals continue to be received on

Coming to WPXN 31.2 is "qubo", drawing on the assets of NBC Universal, Scholastic, Corus Entertainment and Classic Media/Big Idea.

channel 61 (WNET-DT) and 28 (WNBC-DT). WNBC-DT now features full HD newscasts throughout the day, but can anyone see it, especially over the air?

Conditions should be slowly improving for UHF DXers and XM satellite radio listeners. As the leaves on the trees dry and fall, nature's microwave attenuator will disappear until Spring. Enjoy the greatly improved reception to log all the stations that are just out of your grasp during the days of warm weather. Just as soon as the leaves begin to grow again the natural 10 or 20 db pad will be re-inserted into your reception path! DX now while you can!

Hand Me a Towel!

On a personal note, I discovered a handy fix-it idea. Do you have some PVC pipe left over from an antenna project? One of my bathrooms had a missing towel bar. Two attractive porcelain holders remained permanently attached to a tile wall, but the rail that ran between them, to hang things on, was long gone. I thought about this problem for ages. There were adjustable bars available featuring large set-screws to hold it in place. This was too aesthetically awful for me. I toyed with using a long square dowel of wood, but how would you pry it into the holders? While tinkering with an antenna project, I was reminded to try a small length of half-inch PVC pipe. The PVC was nice and stiff, but was pliable enough to bend it as I eased it snugly into place. I created a perfect replacement, at just the right length, for about a dollar. Maybe someday you'll remember this idea or pass it along to a friend.



Essential₂ bathing... Karl used this length of polyvinyl chloride pipe to replace a missing towel bar.

Cuban Correspondence

If you have a good memory, you may recall that I reported a great DX catch by Jim, W2JJG in last February's *PCARA Update*. Jim landed a QSO with Cuban ham Eduardo, CO8LY, and received a QSL card, complete with Cuban postage stamps, as his reward. Inspired by Jim's achievement, I was lucky enough to also work Eduardo this time on 30 meter CW. After a short wait, I had a surprise in my mailbox, too! My QSL was printed with blue ink and was almost identical to Jim's. I'm wondering what kind of a printing press

| | | | | | |
|-------------------------|----------------|---------------------|------|-----|-------|
| (X) CO8LY | NA-015 | | | | |
| () CO8LY / P | GRID: FL20 | | | | |
| | GRID: FL10 | | | | |
| CONFIRMING QSO WITH | DATE | UTC | MHz | RST | 2-WAY |
| N2KZ | DAY MONTH YEAR | | | | |
| | 19 MAR 06 | 0104 | 10.1 | 59 | CW |
| EDUARDO SOMOANO CREMATI | | () PSE QSL TNX (X) | | | |
| P.O. BOX: 104 | | MANAGER : EA7ADH | | | |
| SANTIAGO DE CUBA 90100 | | | | | |
| - CUBA - | | | | | |

QSL card from CO8LY

produces Eduardo's QSLs. Are they produced using old block letters in a letterpress machine? I could not find a picture of Eduardo, but I know he is a First Class amateur equivalent to our Extra Class level of profi-

ciency. For more information about amateur radio in Cuba visit: <http://frc.co.cu/ingles.htm> the web site of The Federacion de Radioaficionados de Cuba (FRC).

Learn to Fly!

If you are looking for a new diversion in your radio hobby, try listening to our local aircraft frequencies. Here are the ten essential frequencies for White Plains/Westchester County Airport/HPN: 121.5 MHz emergency, 121.825 ground, 118.575 tower, 120.8, 126.4 and 124.65 for approach, 120.55 for departure, 116.6 ATIS (Carmel CML), 127.25 pre-taxi and 122.95 MHz for Unicom. Transmissions, especially from airborne transmitters, are usually quite strong and easy to receive. All aircraft transmissions use trusty AM amplitude modulation in an effort to be able to hear every word of every transmission even if two parties talk at the same time. You would be surprised how far aircraft transmissions can be heard. With just my little Uniden Bearcat 350A scanner, and a discone antenna, I have often heard planes within the Boston and Washington Centers.

Until next month, see you on Thursday and happy trails!

- 73 de N2KZ, Karl "The Old Goat"



Holiday Dinner

PCARA's annual holiday dinner will take place at 3:00 p.m. on Sunday December 3 At *The Reef* restaurant. Ray W2CH and Marylyn KC2NKU have once more taken care of the arrangements and provide the following menu choices.

MENU

Tossed green salad

Choice of entrées:

Prime Ribs of Beef

Chicken Cordon Bleu

Boneless Breast of Chicken Marsala

Broiled Stuffed Filet of Sole

Broiled Filet of Salmon

All entrées include: Baked Potato, Vegetable, Coffee, Tea and Cake of the Day.

Final total is \$25.00 per person, not including drinks. If you would like to attend the PCARA Holiday Dinner, prepayment is requested at the November 5 meeting, or you can contact Ray, W2CH, e-mail: W2CH '@' arrl.net.

Antenna for 17 meters

Joe, WA2MCR recently constructed a new antenna for seventeen meters (18.068-18.168 MHz). It performed so well that it's worth sharing the details.



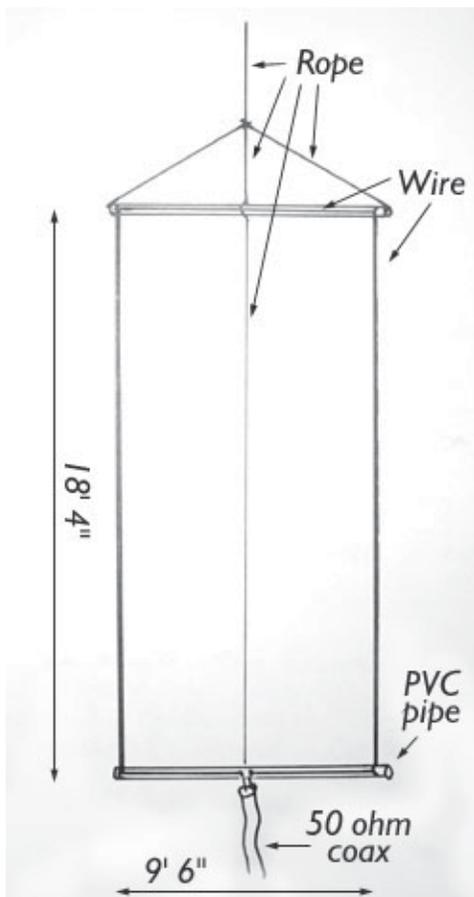
Essential₂ tubing – Joe, WA2MCR begins work on the polyvinyl chloride pipe for his loop antenna.

The design is based on the “Elongated Quad Loop”. This is a resonant, rectangular loop, designed for a feedpoint impedance of 50 ohms. It possesses a

small amount of gain over a dipole. There is an article describing a 28 MHz version by Brian Beezley, K6STI in the July 1994 issue of *QST*, p 70. It is also described on W4RNL's excellent antenna site:

<http://www.cebik.com/quad/qloop.html>

Joe constructed his antenna from 1 inch Schedule 40 PVC pipe from Home Depot. These pipes are available in 10 foot lengths, which is convenient for the 9 ft 6 inch width of the wire rectangle. The wire chosen is 14 gauge stranded copper with PVC insulation. This wire is fastened to the PVC pipes with nylon ties. The antenna is then fed at the center of the lower wire with 50 ohm coax. There is no need for a balun.



Elongated quad loop antenna for seventeen meter band.

insulation. This wire is fastened to the PVC pipes with nylon ties. The antenna is then fed at the center of the lower wire with 50 ohm coax. There is no need for a balun.

The whole antenna is suspended from a tall tree branch using a 50 foot length of plastic rope. The rope is threaded through the top section of the PVC pipe as shown in the diagram. An additional rope is used to pull up the center of the top and bottom PVC pipes, preventing sag caused by the weight of the coaxial cable.

A test with NM9J's MFJ SWR Analyzer showed the antenna was resonant at 17.9 MHz with a very low SWR. The antenna's bandwidth was sufficient to provide an acceptable SWR across the whole 17 meter band.

Joe's first test call on 17 meters gave a report of "5 to 10 dB stronger than your dipole", which sounded pretty good!

- NM9J



View of fall foliage and 18 MHz elongated loop antenna at WA2MCR.

Friends in the north

Greg, KB2CQE received a note from Joe, KR2V. Joe was very active in PCARA's early years, filling the role of Secretary/Treasurer and editing the newsletter.

Joe writes: "I'm glad to see the club is still going strong. Unfortunately I haven't had much time for ham radio, although I do miss the hobby. I enjoy receiving (and reading) the PCARA newsletter from Malcolm. Hopefully, I'll eventually find the time to get back into the hobby."

Joe asks us to keep him in mind if we hear of anyone in need of real estate services in the Dutchess County area. You can contact Joe by e-mail at: joseph.ellman 'at' prudentialserls.com.

October Foxhunt

PCARA's latest foxhunt took place on October 7. Gathering near Radio Shack at the Beach Shopping Center in Peekskill were the teams of Ray W2CH plus Marylyn KC2NKKU, Mike N2EAB, Malcolm NM9J with Joe WA2MCR, and Wires KC2FYY with Tom. Most of us had not seen Wires in quite a while during his studies



Mike N2EAB, Marylyn KC2NKKU and Ray W2CH admire Tom and Wires' KC2FYY quad antenna.

in Eastern New York, so there was a chance to catch up on old times. As 3:00 p.m. approached the question was... where's the fox? Not just "where?" as in location but also "where?" as in frequency.

PCARA's fox Karl, N2KZ began the contest with his transmitter set to the 146.67 MHz repeater input. We were expecting some crafty tactics from Karl, but shifting the hunt to the repeater frequency was not part of his cunning plan. For the next transmission, Karl was back on 146.565 MHz simplex and the hunt was on.

The transmission was good and strong, with a bearing due east, so our hunters all set off in pursuit. Ray and Marylyn traveled down Lafayette Avenue toward Blue Mountain Reservation, then back to the King Buffet Chinese restaurant above Burger King, where the signal became strong again.

Mike, N2EAB headed east, stopping at Gymnastics City on Rt 202. He continued to the Furnace Woods Fire Station on Croton Avenue, circled round to Lexington Avenue, then headed back toward the Beach.

Malcolm and Joe headed east on Rt 202 but the signals seemed to be getting weaker and coming from

the area they had just left. One of the bearings went through Jacobs Hill, but an investigation of that area showed signals weaker than before, from the south.

Up to this point, Karl's script had been describing the delights of Southport, with its miles of golden sand on the Lancashire Coast. What could be the connection with Peekskill/Cortlandt? Then Karl began describing the people who were taking part in the foxhunt. How could Karl know who had signed in at the starting point? Perhaps he was located somewhere in sight of the Beach Shopping center, and could see the area with binoculars?

We headed back to the starting point and took stock. Where could Karl be parked and see the contestants gathering? The trees on Jacobs Hill would block anybody's view from up there. One possibility was that Karl might be parked in the higher section of the Beach car park... and looking around, there was a suspicious looking blue Corolla with someone behind the wheel who looked rather like Karl. Closer inspection revealed that it really was Karl, using a quarter wave antenna on the driver's door and a yagi antenna inside the car. Our arrival time was 3:46 p.m.



Hunters converged on Karl, N2KZ in his crafty location.

Next to reach the fox at 4:13 p.m. were Ray W2CH and Marylyn KC2NKKU, homing in on Karl's third harmonic. They were closely followed by Mike, N2EAB plus Will KC2FYY and Tom.

Participants retired to the New City Diner on Rt 202 to tell tales of how they found the fox, to receive their certificates and to take in a meal. We learned that Karl had drained his HT battery at the start of the hunt and was forced to run into Radio Shack for a fresh supply of AA cells. Karl had been alternating between antennas, and to complicate matters, had been moving the Yagi antenna around during transmissions.

So it was that Karl, the cunning fox, was tracked down by everyone. All roads did not lead to Rome, but instead led back to the Beach Shopping Center. - NM9J

Go away or I will taunt you a second time!

...And now for something completely different. The view from the fox den! I was honored to receive the PCARA "Boob of the Month" award on October 7th. Just before the beginning of the fox hunt, I decided to see if my trusty Radio Shack handheld scanner could pick up the PCARA repeater. It could, but only barely, while sitting in the Beach Shopping Center parking lot. Of course, I did not change back to the simplex fox hunt frequency before the hunt. This drove everyone crazy which, I suppose, was the point of the fox hunt overall. Let's not get ahead of ourselves...

I decided, long ago, to sit very close to the starting position of the foxhunt. It was not until I reached the Beach parking lot that I realized the parking spots had been redesigned with contoured tiers. I found a spot, high atop a mound and right next to a set of steps. What a perfect perch! From this spot I could clearly see everyone arrive to the foxhunt and watch the drama unfold.

It was a really beautiful day and my view was clear as a bell. I arrived at about 2:20 p.m. so as not to be seen.



"How not to be seen."

I parked and then quickly attached an old Massachusetts license plate to the back of my car to obscure my signature N2KZ plates. The missus needed our mini-van for a drive to the city that afternoon, so I had to make do with the "N2KZ mobile." I was all set and ready to go.

One of my first challenges was to find a way to minimize my signal. I was only a few hundred feet away from the starting point. I used a little mag-mount whip mounted horizontally inside my car and reduced the power on my Icom IC-T7H handi-talkie down to its low power setting of about 500 milliwatts. This still produced a pretty strong signal for such close proximity.

I patiently watched everyone arrive. I was surprised how late everyone showed up. I started to get worried! I saw Malcolm, NM9J, Ray and Marylyn, W2CH and KC2NKU, Mike, N2EAB, Joe, WA2MCR, and two young guys with huge Yagi antennas, Wires KC2FYF and his friend Tom. I took careful notes regarding what they were wearing to use as a clue later on.

My first transmission was as misguided as can be. Not only was I on the wrong frequency, my main battery had begun to fail. I could have sworn I had charged it, but obviously not! I was broadcasting on the two meter repeater's input frequency, 146.070 MHz. The fox hunters did not catch on until a couple of minutes into my mistake. Malcolm gave me a heads up after I completed my first transmission. I noticed my mistake just as I was ending my first speech. What a dummy! Thank the Lord

there was a very nearby Radio Shack stocked with batteries. I had only five minutes between transmissions to run and pick up some AA cells! I was scared to be seen, but it occurred to me that no one was looking!



I ran into the Radio Shack and immediately found the batteries. Of course, the young salesman wanted to sell me a cell phone and a myriad of other nonsense. My anxiousness grew as he went into the usual speech about "What is your phone number?" My thoughts were "Listen, buddy. Just take my money, OK?" With only about a minute left, I ran back to the car and proceeded to transmit the second transmission with my backup battery pack, again at low power on the correct simplex frequency. Now the fox hunters had a good first bearing and away they went! It was 3:13 p.m.

My next transmission was accomplished with a fresh set of batteries, at high power (6 watts) and my Yagi antenna. Of course, I pulled my old shenanigans of panning the Yagi's beam across the parking lot to vary the signal. I also pointed it towards a nearby hill hoping it would reflect in a bizarre pattern. This strategy always works! My script was a Southport, England publicity flyer, I found on-line, as a tip of my hat to Malcolm NM9J. It was the most non-descript copy I could think of that would not reveal any clues.

I used the Southport material for the next two transmissions. At the end of the fifth transmission, I made a comment about which members were attending the hunt. Malcolm and Joe caught on fast! I saw them return to the Beach parking lot and they headed right toward me. It was 3:46p.m. I gave them a brief thumbs-up from my car. They were the winners of the hunt!

For my sixth transmission, I became very heavy-handed with my clues. I mentioned everyone who was hunting and cited precise descriptions of what they were wearing. I also read copy regarding the Beach Shopping Center. Mike, N2EAB, was sighted at 4:03 pm, but he couldn't find me. Ray and Marylyn, W2CH and KC2NKU, arrived at 4:08 p.m. and proceeded to head away from my car. I was tempted to yell "I'm over here!" Marylyn captured me at 4:13 p.m. Mike and Wires and Tom were not too far behind.

What a fun hunt it was!

No one had previously tried the obvious position of hiding very close to the starting point and I managed to get away with it! I felt pretty guilty watching everyone leave the parking lot headed for distant locales with such clarity. The elevated parking spot could not have been a better place to be. I felt so sly!

The next hunt will probably take place in the spring with Malcolm and Joe serving as the fox. What sneaky location will they decide upon? Watch the PCARA Update and web site for details regarding the next fox hunt date. And beware of Trojan rabbits! My thanks to all!

– N2KZ the old goat... err... fox!

Hyper Hanger review

- W2CH

For a while, I had been looking to raise my 102 ft long G5RV dipole in the woods behind my house. The dipole was already up at about 50 feet on a tree at the southerly end of the antenna, using the line from a previous dipole at that same location. However, the earlier attempt to raise the dipole on a tree at its northerly end did not stay up, as the branch it was on had broken a while ago.

My RadioWavz “Hyper Hanger™” was purchased from KJI at the recent BARA Hamfest on September 30. Later the same day, with help from Joe WA2MCR, the end of the dipole was successfully put up about 50 feet in the tree. It took us a few attempts to unwind the fishing line, and to see that the tennis ball stayed attached to the line. At least, when it came off the line it was easy to see where it fell in the woods due to the tennis ball’s size and bright color.



RadioWavz’ “Hyper Hanger” includes a Shakespeare Durango fishing reel, nylon line, Hyperdog sling and weighted tennis balls. [Picture by W2CH]

The tennis ball is weighted inside and has a loop to hook up to the fishing line. It seemed to perform well, and was very visible as it came down the tree with the line, as compared to using a small lead weight, such as Hyper Hanger’s competitor “EZ Hang” uses.

It is handy to have the line deploy from the fishing reel, to help avoid tangling. The literature for the Hyper Hanger states that, “It is visible due to use of a tennis ball, and can shoot a ball distances greater than 220



Hyper Hanger in use by Ray, W2CH. [Picture by KC2NKU]

feet”. While the EZ Hang information states that “it can be used to shoot a line 100 feet or more.”

Additionally, the Radiowavz Hyper Hanger information states that “You don’t have to worry about the ‘headaches’ you’ll get with those sling shot 1 ounce weights. The ball is almost tangle-free and easy to see.”

Further, “The Hyper Hanger is made of durable steel construction with a baked on coating—protecting the metal from rusting or chipping. The ‘bands’ are made of surgical grade tubing for extra long launches.”

The list price is \$79.95. (See <http://www.radiowavz.com/>) I purchased it from KJI for \$55.00.

The EZ Hang states that “its basic construction is welded/ bolted attached to a reel that is corrosion-resistant plastic and stainless steel.” They say that the EZ Hang uses



The competing “EZ Hang” combines a sling and a fishing reel, but uses yellow-colored lead weights in place of the tennis ball.

an “easy to see, bright yellow one-ounce lead weight.” The list price for the EZ Hang on their web site <http://www.ezhang.net/> is \$89.95.

Overall I am satisfied with the performance of my Hyper Hanger, as used to install my G5RV dipole antenna, and I look forward to using it in the future.

- Ray, W2CH.

FiOS by us

Verizon's FiOS (**F**iber **O**ptic **S**ervice) brings fiber optic connection direct to the home. Recent developments mean that full strength FiOS is getting closer to our area.

Verizon launched FiOS TV in Texas in September 2005. In our area, six Long Island communities and three villages in Rockland County are now offering the service.

Gray-green boxes and fiber optic cables have been appearing around Westchester for some time. Phone and Internet service are already on offer in some communities, but FiOS television has to wait for approval from individual towns.



Verizon FiOS fiber distribution box. Boxes like this have been appearing on utility poles all over our area.

First to go in Westchester is the Town of Greenburgh. In August, the town held a public hearing, then on September 27, Greenburgh Town Council approved an agreement with Verizon for provision of fiber-optic-cable TV service in the town. The agreement went to the New York State Public Service Commission for final approval, which was issued on October 19. This makes Greenburgh the first municipality in Westchester to offer Verizon's TV service in competition with Cablevision.

The sequence of:

1. Town has discussions with Verizon,
2. Public hearing,
3. Signed agreement with Verizon and
4. PSC final approval

is at different stages for various towns in Westchester. Irvington has approved its agreement with Verizon. In Northern Westchester, Mount Kisco held its public meeting in late October. Discussions have been going on between Verizon and Briarcliff Manor, Cortlandt, and Ossining.

FiOS will offer Internet connection speeds from 5 Mbps to 50 Mbps downstream. The TV offering will include more than 180 standard channels, plus premier movies and sport. And if you want a telephone line, that's available too!

Verizon sent out fliers for "FiOS Internet" in the local mail for Zip 10567 on Saturday October 28. According to Verizon's web site, <http://www22.verizon.com/content/ConsumerFios/>, the service is not yet available on your Editor's street, but it is available nearby. The monthly price for FiOS Internet with a 10Mbps download speed is \$34.95, which compares favorably with Cablevision's Optimum Online at around \$50 per month.

- NM9J

General Class

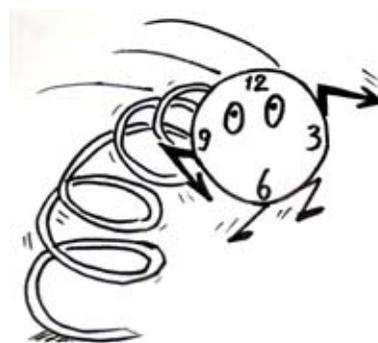
Putnam Emergency & Amateur Repeater League (PEARL) is organizing a General Class on Saturday mornings from 9:30 a.m. to 12 noon at the Putnam County Bureau of Emergency Services Training & Operations Center, Donald B Smith Government Campus, 112 Old Route 6, Carmel NY. The first class is scheduled for Saturday November 4.

Classes will run through to December and conclude with a V.E. Test session. For more details, contact Paul, W2BP, via W2BP 'at' arrl.net.

Fall backward

Don't forget that clocks need to be put back one hour on Saturday night, October 28, from daylight to standard time.

If your clocks are receiving WWVB on 60kHz, you could stay up till 2:00 a.m. on Sunday morning and watch the hands spin round until they catch up with standard time again.



Essential₂ Service

You may remember from previous columns that the “Essential₂” campaign is sponsored by the American Chemistry Council, in order to show that chemistry is essential to safety, health, innovation, the environment, the economy... essential₂ our lives. Last time, I mentioned the importance of chemistry to two materials associated with antennas... copper wire and polyester rope. This time, let's take a look at some of the spray-on service aids that might be found in a well-equipped amateur radio workshop.

Fresh air

One of the first items you might pick up is a can of “Dust-Off”, “Blow-Off”, “canned air” or “air duster”.



This is an aerosol-style can of compressed gas for removing dust and debris from hard-to-reach areas of electronic equipment. You can use it to clean air-spaced capacitor blades, cooling fans, computer keyboards and printers. Modern transceivers with their dozens of tiny buttons, switches and knobs are obvious candidates for a breath of fresh “air”.

But there is no air in “canned air”... the aerosol can usually contains compressed **1,1-difluoroethane**, CH_3CHF_2 , also known by the DuPont trade name of Dymel[®]-152a or R-152A. Difluoroethane is normally a gas, but inside the can it is compressed

into a liquid, with a boiling point of -13°F . R-152A is a fluorinated hydrocarbon, containing no chlorine, so you need not be concerned that it will deplete the ozone layer, in contrast with those nasty CFCs (chlorinated fluorocarbons). It has a low level of toxicity, though there have been concerns about inhalant abuse by teenagers.

The compound is manufactured by reacting hydrogen fluoride with acetylene. While the product itself is relatively innocuous, those raw materials are distinctly hazardous – acetylene is flammable while hydrogen fluoride is highly toxic and corrosive. Difluoroethane itself is flammable and the combustion products are nasty, so never spray “canned air” into flames, into energized equipment or at other ignition sources. In the past, “canned air” products were based on butane, which was even more flammable.

A chill in the air

The next item on your service shelf might be a can of “freezer” or “freeze spray” – used for investigating

intermittent thermal faults on circuit boards. If you suspect a component is changing properties as it warms up, spray the component with “freezer” and see if the fault clears or returns. The spray causes rapid cooling of the component, the internal parts will move with respect to each other, and if you are lucky, an internal break will become a “make”, with the circuit resuming operation. If nothing happens, then perhaps another component was responsible... give it a squirt of freezer and see. You can use the same product to detect cracks in etched circuit boards, and to protect sensitive components from heat during soldering. (A heat gun is another useful tool for finding intermittent faults.)

Modern freezers such as Chemtronics Freez-It[®], Freeze Spray and Blow-Off[™] Freeze Spray contain **tetrafluoroethane**, another fluorinated hydrocarbon — CH_2FCF_3 . It is also known as refrigerant R-134a or Dymel-134a. Liquid tetrafluoroethane boils at -15.9°F . In the aerosol can, it is stored under pressure and stays a liquid. Once squirted down the delivery tube and released into the air, the drops of liquid rapidly boil and turn into vapor, in a similar fashion to the refrigerant in an air-conditioner. Heat is needed to drive this evaporation from liquid to gas, and the required thermal energy is drawn from the surrounding air or from any component that you spray the freezer onto. The component may then cool to as low as -65°F . Brrrr!



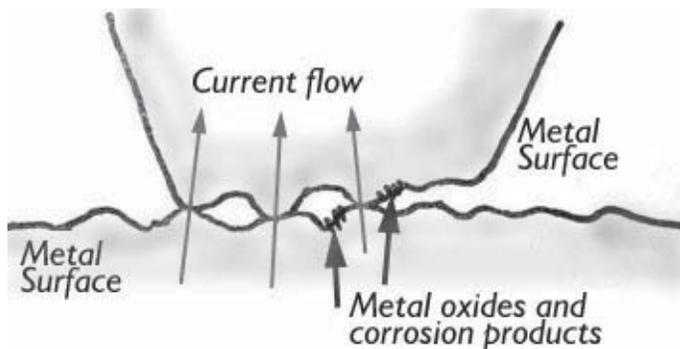
Tetrafluoroethane is manufactured by the reaction of hydrogen fluoride with trichloroethylene. The product has low toxicity and is nonflammable. It is unlikely to dissolve plastics and other parts of electronic equipment. R-134a has much lower ozone-depleting properties than the R-12 refrigerant that it has largely replaced. R-12 is dichlorodifluoromethane — the classic ozone-depleting chlorofluorocarbon that was used as a refrigerant and aerosol propellant until manufacture was banned in 1995.

Keep it clean

The third item on our well-equipped service shelf is likely to be a product to quieten down noisy contacts. Do you have a vicious volume control, a suspicious speaker connection or a wild wavechange switch? If all you can hear are crackles and bangs when you move the control, the easiest fix may be to spray the parts with **contact cleaner**. A variety of products are available... my favorite from the UK was “Super Servisol” switch cleaning lubricant. In the U.S. you can choose products such as Kemtronics Kontakt Restorer[®], Techspray Contact Cleaners, Rawn Universal Contact

Cleaner and Deoxit products from Caig Laboratories.

Contact cleaners are intended to restore good electrical conductivity between two metal surfaces – for example between switch contacts, relay contacts, plugs and sockets or the track and slider of a volume control. (Some volume controls and potentiometers have a metal contact and a carbon track.) When the components are brand new, there is full metal to metal contact, with low resistance and easy current flow. As time goes by, the metal surfaces may become oxidized, corroded, or coated in dust, dirt, grease and all sorts of other nastiness that is generally non-conducting. If there is any movement between the metal surfaces, the contact resistance will vary significantly, with crackles and bangs added to the desired signal.



When metal surfaces touch, current flow can only occur at the points of actual metal-to-metal contact. If the surface is oxidized or corroded, contact resistance rises. As the surfaces move past each other, resistance can vary greatly.

The simplest spray-on contact cleaners have the ability to dissolve and blow surface contaminants away, then evaporate and leave a clean metal surface. A typical product might contain a mixture of hydrocarbons like isohexane, with alcohols such as ethanol and isopropanol, plus carbon dioxide as the propellant. This type of contact cleaner will evaporate quickly and leave no residue at all. However, the alcohols and hydrocarbons are flammable, so you should take precautions when working on equipment containing sources of ignition. Variations on the simple formula may substitute the hydrocarbons with tetrafluoroethane (as previously encountered) to reduce the flammability – for example Chemtronics Kontakt Restorer.

The only problem with these simple cleaners is that if the metal surfaces got contaminated once, they can get contaminated again. There are more sophisticated products that will not only clean the contact surfaces, but leave a protective film to prevent further oxidation and corrosion. Some of the film additives are proprietary, for example Caig Laboratories DeoxIT contains “D100E” while ProGold contains “G100E”.

The film-forming additive used in some contact cleaners is said to be **oleic acid**, an organic acid that remains liquid at room temperature. It would not only

act as a lubricant for the metal contacts, but could also dissolve metal oxides and corrosion products that might be present on the surface.

Other contact cleaners incorporate **polyphenyl ether**, which leaves a highly stable, non-spreading film, 15-20 microns thick on the metal surfaces. This material provides long-term lubrication and protection even when the connectors are exposed to aggressive atmospheres. The lubricant reduces insertion force,

minimizes wear and maintains low, stable contact resistance. It also eliminates “fretting corrosion”, where moving contacts are worn away by the abrasive effects of their own corrosion products.

I have had a lot of success with Caig’s Deoxit and ProGold products, as well as with the polyphenyl ether-based products such as Chemtronics “Gold Guard”. They really do work.

Two words of warning – be careful with “industrial grade” switch cleaners. I can remember using one such product long ago on a Gelo converter wavechange switch. The polystyrene insulation in the switch *dissolved* and only the metal parts were left! The culprit here was carbon tetrachloride, CCl_4 , a product now banned because of its toxicity.

Also be careful with contact cleaners that contain silicone oil. Silicone oils are remarkable products, but they do not always mix well with electronics. Silicone oil tends to creep and get into places you did not intend it to go. If there is any arcing at the metal contacts, it may convert the surface film of silicone oil to silica (silicon dioxide), which is non-conductive and difficult to remove from the metal surface. If you have contacts that arc, it is usually better to clean them with a fine burnishing tool rather than using any lubricant.

So... next time you need to squirt some “canned air”, cool a component or clean a noisy contact, give a thought to all the chemistry in cans that brings you these superior service aids.



Caig’s Deoxit and ProGold contact cleaners are available from Radio Shack.



Peekskill / Cortlandt Amateur Radio Association

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Web site: <http://www.pcara.org>

PCARA Update Editor: Malcolm Pritchard, NM9J

E-mail: NM9J @ arrl.net

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. *Apart from holidays.

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 Nov 5: November meeting, 3:00 PM. HVHC

Sun Dec 3: December meeting/holiday dinner, 3:00 p.m. "At the Reef" restaurant.

Hamfests

Sat Jan 27 2007: NLI Section Convention/Ham Radio University, Briarcliffe College, 1055 Stewart Avenue, Bethpage NY.

VE Test Sessions

Nov 5: Yonkers ARC, Yonkers PD, 1st Precinct, E Grassy Sprain Rd, 8:30 a.m. Contact D. Calabrese, 914 667-0587.

Nov 13: Split Rock ARA, Hopatcong HS, Hopatcong, NJ. 7:00 p.m. Contact Sid Markowitz, (973) 663-0518.

Nov 15: West Point Cadet ARC, Thayer Hall, Room 212, U.S. Military Academy, West Point, NY. 6:00 p.m. Contact Dennis Yates, (845) 446-2634.

Nov 17: Bergen ARA, Westwood Regional HS, 701 Ridgewood Rd, Washington Township, NJ. 7:00 p.m. Contact Donald Younger, (201) 265-6583.

Nov 20: Columbia Univ ARC, 612 W 115th St, Columbia Univ-Morningside Hgts, Watson Labs, 6th floor, New York, NY. 6:30 PM. Contact: Alan Crosswell, (212) 854-3754.

Dec 3: Yonkers ARC, Yonkers PD, 1st Precinct, E Grassy Sprain Rd, 8:30 a.m. Contact D. Calabrese, 914 667-0587.

Dec 7: WECA, Westchester Cnty Fire Trng Center, 2 Dana Rd, Valhalla, NY. 7:00 p.m. Contact Stanley Rothman (914) 831-3258.



Peekskill / Cortlandt Amateur Radio Association Inc.

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