



# PCARA Update



Volume 7, Issue 10

Peekskill / Cortlandt Amateur Radio Association Inc.

October 2006

## Net knight

The weekly PCARA net has returned! On Thursdays at 8:00 P.M., Karl, N2KZ coordinates the net on the 146.670 MHz repeater. Consider checking-in and see what happens.

The next PCARA Foxhunt is scheduled for Saturday October 7, 2006 at 3:00 P.M. Check-in will start at 2:30 P.M. at the Beach Shopping Center off Dayton



*The PCARA fox will be in hiding again on Saturday October 7.*

*[Hunters should gather near the "Beach" Radio Shack store for check-in between 2:30 and 3:00 p.m. on Oct 7. Rules are on page 7 of this PCARA Update. - Ed.]*

It's hard to believe that the summer is over and the Holiday Season is approaching fast. This year as in years past, the PCARA Annual Holiday Dinner will be held "At The Reef" in Annsville on December 3, 2006, at 3:00 P.M. The cost is \$25 per person in cash (drinks extra). RSVP to Ray, W2CH or Marylyn, KC2NKU. Payment is due no later than November 5, 2006, which also happens to be the date of the November meeting.

Don't forget our October 1<sup>st</sup> meeting at Hudson Valley Hospital Center. I look forward to seeing each of you there.

- 73 de Greg, KB2CQE

## Tower de-light



This photo, taken earlier in the year, shows the two meter repeater's antenna (middle left) trapped under a tower lighting arm. Bob N2CBH reported in July that the antenna has been freed from under the lighting arm and is now back in a vertical position.

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## PCARA Officers

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Vice President:

Joe Calabrese, WA2MCR; wa2mcr at arrl.net

Secretary/Treasurer: open.

# Adventures in DXing

- N2KZ

## You're So Foxy!

Ladies and gentlemen, pack your antennas and start your engines! The next PCARA radio direction-finding fox hunt will be up and running Saturday, October 7th at 3 p.m. starting at The Beach Shopping Center on Route 6 in Peekskill. Radio hounds will be gathering at 2:30 p.m. right outside the Radio Shack store readying for the hunt. I won't be seen! I will be the hunted!

Being a fox is quite an honor. You must win a fox hunt to be a fox. I have my oversized 2 meter Yagi antenna to blame for that. I was the first to find Malcolm, NM9J, during the last hunt. Now the title of



*Karl, N2KZ homes in on the quarry during PCARA's previous foxhunt in May 2006.*

fox is mine! Rest assured, I already have selected a place to hide and my strategy is planned! Finding a site to operate from is no easy task. I can not provide any clues, but I will say that my fox hole will be unprecedented and as sly as I can imagine. To be a successful fox, you must be wily and shrewd. I am practiced in the art of deception. Try to catch me!

Foxes must also prepare lengthy reading material to fill the idle minutes while they transmit. Many foxes, including myself, usually weave clues into the text of the broadcasts to allure and bait the hunting hounds. This hunt will be no different. The content will be entertaining and quizzical. Great times will be had by all. Bring a friend or two to build a team or hunt alone. Just prepare to hunt and snare! I will be there!

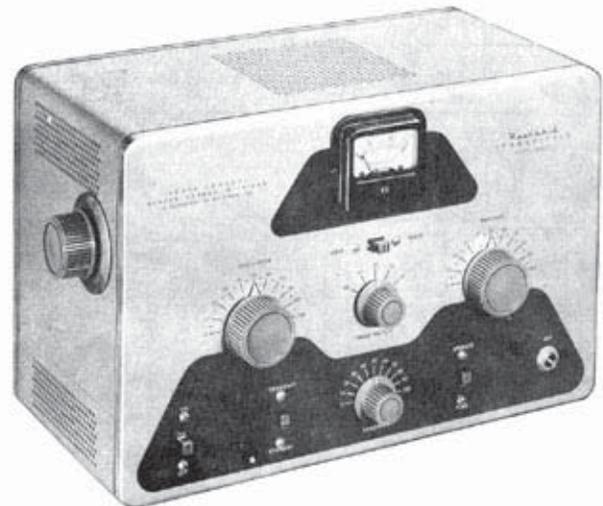
Join us, one and all, at The Beach Shopping Center at 2:30 p.m. on Saturday, October 7th. Directions and rules for the hunt will be found later in this copy of the *PCARA Update*. Don't miss the fun!

## Ten Dollars to QRO

Each year, the South Salem Library holds a remarkable fund-raising fair and book sale at Onatru Farm, a large public park in Eastern Westchester. One of the large barns always houses a wild collection of donated electronics including endless computer gear, stereos, wireless telephones and radios. Here you can always find remarkable and nostalgic gear for a song. This year, my family and I arrived late and most of the remaining items on sale were picked over and commonplace. All except one.

Sitting on a shelf, with its original manual sitting on top of its chassis, was a battered and worn Heathkit DX-20 transmitter. It called out to me: "Karl! Karl! Save me from the crusher!" I just couldn't let it die. The unit was complete, with all its knobs in place. The little front-panel meter, with "Heathkit" painted in script on its face, was in nice shape. The front panel was covered with what looked like fiberglass insulation, and the paint showed signs of water damage. One area resembled rusty teenage acne and the back panel's paint was flaking off with the slightest touch.

Try as I might, I just could not resist. I carried my find out to the check-out table and I asked "How much is it?" The lady volunteer behind the picnic table replied "What is it?" I explained that it was an old Morse code transmitter designed for ham radio operators. Her response: "What do you think it's worth? The library is a good cause!" Even their largest and most desirable items sold for five dollars. I handed her a ten dollar bill. She was thrilled and so was I!



*Heathkit DX-20 CW transceiver as pictured in the 1959 manual.*

I brought it home and spent the next week looking over the manual and researching my new beastie. The Heathkit DX-20 is part of the second generation of Heathkit amateur radio gear dating back to 1956-1959. It closely resembles the classic original AT-1, a first generation kit which is now a sought-after rare find.



*Renovation underway on Karl's latest acquisition, a Heathkit DX-20. (Photos by N2KZ.)*

The DX-20 was designed to be a beginner's kit for Novice hams to operate and practice their code. It includes three tubes: A 6DQ6 horizontal sweep tube final, a 6CL6 oscillator and a 5U4 rectifier.

A unique porthole on the left side of the chassis is covered with what looks like an adjustment knob. Pull the knob out of the chassis and you reveal an access hole allowing you to change the crystal for frequency selection. I was lucky to have the perfect crystal. It is cut for 3559 kHz, right near the Fists club's frequency of 3558 kHz. Double this frequency and you are at 7118 kHz right in the middle of the 40 meter Novice segment. I was all set for dual-band operation!

On Saturday, I began by cosmetically cleaning the chassis and scrubbing all the in-ground dirt off the knobs. Although the outside of the rig was dirty and worn, the inside of the rig looked untouched and well-made. The person who assembled the kit knew how to solder and build a neat kit. I was thankful. I cleaned all the surfaces and tubes. I removed an Ameco low-pass filter mounted on the back panel of the rig. I carefully removed and tested each tube on my military surplus TV-7 tube tester. All three tubes checked fine. Several of the components were stamped with a manufacturing date of 1959. I daintily cleaned all the switches with 100% alcohol on Q-tips. It looked great!

I checked all the switches and everything seemed to work just fine.

I found one problem. One of the 15K ohm 10 watt resistors across the filter capacitors in the power supply built adjacent to the 5U4 rectifier tube tested open. I actually found a brand new 13K 10 watt resistor in one of my junk boxes. This was a sign of divine intervention! This rig was intended to find me as an owner! I tacked in the resistor and connected a light bulb dummy load. A low hum was heard as power was applied to the rig. I tuned the on-board pi-network and

all looked good. After a couple of minutes of warm up, I slid a front-panel switch from "tune" to "transmit." I felt like Frankenstein! "It's alive! It's alive!"



*"It's alive! It's alive!"*

I fine-tuned the pi-network and loading control. Oh, boy! Did that light bulb glow nicely. I had full RF output. Another check proved I had no hum and a very nice RF Morse code note. I was in heaven! Is this great or what? Later, I put the rig on the air and worked Moe, W3MT, in Pennsylvania on 80 meters who rated my signal 599. I used my R-390A surplus receiver to hear his replies. It doesn't get any better than this!

Later, I felt a bit of remorse about my new rig. More than likely, the rig was probably used by a young ham for a reasonable amount of time. The power resistor blew and took the transmitter off the air. Without spare parts, or instrumentation to troubleshoot the problem, the rig probably went silent for forty years! It patiently sat in an attic or basement next to an unfinished wall collecting the yellow fiberglass debris. Now, it is my turn to enjoy this gift and see what new happiness it can bring. I can't wait! CQ CQ CQ DE N2KZ...



*Heathkit DX-20 has 5U4G double diode rectifier (left), 6CL6 VFO (right) and 6DQ6A PA (horizontal, center).*

The Heathkit DX-20 has a wide range antenna-matching network that is designed to load up to nearly anything. The unit truly was created with young Novices in mind. The assembly manual suggests using a random piece of wire as an antenna with as little of the wire's length indoors to prevent losses. My DX-20 works so well it's scary. The rig loads up perfectly to my 80 meter dipole with great efficiency. It is capable of operation on six bands: 80, 40, 20, 15, 11 and 10

meters. 11 meters is now unavailable for amateur radio use. It was reallocated to become the Class D Citizen's Band back in 1958.

There are two other things that make this rig "hot." It is designed as an A/C set using the chassis as a ground. Plug the DX-20 into your wall socket the wrong way and the chassis has a lively potential. Don't touch the metal of the rig and anything that resembles a ground, because if you do, you will find yourself on the ground! Also, the transmission key actually directly switches the 6CL6 oscillator tube on and off. Carelessly touch the metal parts of your straight key and you'll understand immediately why keys have insulating black bakelite knobs for the operators to hold. Navy spark-proof keys, with all-insulated contacts, are highly recommended!

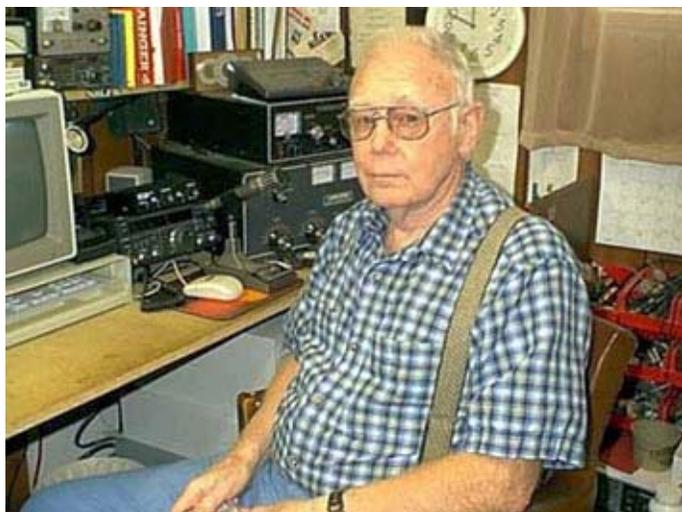
I am not used to having such a powerful transmitter with a complete antenna-matching network. My beloved Heathkit HW-16, a horizontal sweep tube transceiver vintage 1967, has only one control for antenna tuning.

With a fully adjustable pi-network and loading control, the DX-20 really loads up with grace and style. Both units produce wonderfully sweet transmissions. They sound like musical notes heard from an old-fashioned piano on the air.

I can only guess what adventures lie ahead for me and my new Heathkit pal. I am a truly proud owner and will try to work the world with my new companion. It's great fun just to transmit: RIG HR IS HEATH DX-20. What a perfect rig for ARRL Straight Key Night on New Year's! I can't wait. Always remember: If it doesn't glow, it doesn't go!

### New Nightly Net

Peekskill Cortlandt Amateur Radio Association now meets on the air once a week on our two meter repeater at 146.67 MHz output, minus 600 kHz offset,



Bill, N8LFR.

156.7 PL. Look for the Old Goat's Net every Thursday night at 8:00 pm Eastern local time for a roundtable of friends sharing good stories and information. The net has been on the air two weeks at this writing. Our second meeting attendance was up 50% from our premiere! Please join us and share your experiences and meet new friends.

The name of the net is not unique. The original Old Goat's Net meets daily on the N8LFR repeater in Bad Axe, Michigan. A dozen or more hams check-in every day at 8:30 am to converse and look after each other. It's a grand collection of good friends who have met on the air continually since the 1970s. One member, Norris, VE3FBQ, actually checks in daily from his QTH in Ontario across Lake Huron! His powerful rig and Yagi antenna really deliver quite a signal into Michigan's Huron County. The net is sponsored by The Lake Huron Amateur Radio Club and is visited by hams far and wide. Now the tradition has a franchise on the east coast.

Until next month, happy trails and good DX

– de N2KZ Karl dit dit.



## Bodan Six

At the September meeting, Mike N2EAB was showing his latest construction project, the Bodan Six transceiver designed by DK1HE.



Bodan Six QRP transceiver

This radio is a six meter CW transceiver using a direct conversion receiver with 750 Hz AF filter. The transmitter employs a 2N3553 PA, generating 1 watt output. Frequency control uses a voltage-controlled crystal oscillator, giving a range of 35-40 kHz.

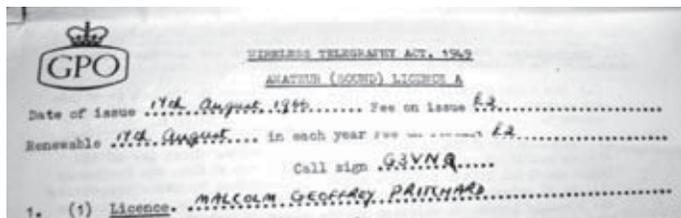
Mike took several months to find parts and complete this radio. More details are available from the QRP Project, [http://qrpproject.de/UK/bodan\\_six1.htm](http://qrpproject.de/UK/bodan_six1.htm).

# An Inspector Calls

In the United Kingdom, a young radio amateur with a new G3V... callsign could look forward to all sorts of experiences — the first local contact (that was exciting), the first HF transmitter (wow!) and the first contact outside the country (even more exciting).

But there was one experience that inspired a certain amount of dread... and that was the first visit from the Post Office Inspector – brrrrr!

A word of explanation – when I was first licensed, U.K. amateur radio licenses were issued by the General Post Office (GPO). This was the same organization that sold stamps, delivered letters, transmitted telegrams and provided phones for practically every household in the land. At the time, the Post Office was also responsible for car phone service, the coastal radio service and inspection of radio installations on board ship.



*UK amateur radio licenses were issued by the General Post Office (GPO).*

Another area of Post Office responsibility was the investigation of radio interference. The body of men who carried out this work was known as the Radio Investigation Service. Most of their time was spent tracking down interference to broadcast radio and television, but they were also responsible for investigating more serious forms of interference to two-way radio and the emergency services.

The Post Office investigators drove Ford Thames vans, based on the Ford Anglia car. These vehicles had



*Ford Thames van as driven by the U.K. Post Office Radio Service in the 1960s. The fiberglass whip antenna was connected to measuring equipment in the back of the vehicle.*

been specially adapted for radio work, with a collection of test equipment mounted in the back for tracking down interference, plus a supply of suppressors to apply to sparking motors and other sources of radio QRM.

It's worth remembering that forty years ago, use of radio transmitting equipment by everyman was far from common. There were no wireless phones, cell phones, remote controls, garage door openers and certainly no Wi-Fi. In the U.K., citizens band radio was not permitted until 1981. Possession of transmitting equipment was a rare privilege enjoyed by some rather elite groups... plus a wild bunch of radio amateurs.

The Post Office wanted to keep those wacky radio amateurs on the straight and narrow... so everyone with a U.K. amateur radio license could expect a visit from the local Post Office Inspector. The Inspector had to be given access to the station and anyone who was not complying with the terms of the license could expect Trouble with a capital T.

Fortunately, when I lived in Southport on the northwest coast of Lancashire, the local inspector also happened to be a radio amateur. In fact, it was quite possible that John would let you know when he was coming to check your station, by having a mobile contact on 160 meters (a popular band for /M operation at the time.) On his first visit to my station, John wanted to make quite sure that I had the required frequency measuring equipment — I had an absorption wavemeter to indicate the band in use, plus a 100 kHz quartz crystal reference oscillator. He also wanted a demonstration that I could measure my transmit frequency with sufficient accuracy to meet the license conditions. I managed to scrape through this test, and the Inspector signed my log book, showing that I had been duly inspected.

## Bright sparks

I've bumped into P.O. Inspectors on a couple of occasions since then... One time was at my first “proper” job in the chemical industry, where I was testing PVC stabilizers. There was a downstairs laboratory where I mixed stabilizers with PVC polymer then milled the powdery mixtures into fully processed samples. And there was an upstairs lab where I carried out physical testing of the PVC samples, checking thermal stability and electrical properties.

One Monday morning I was given some bad news. The Post Office Inspector had paid a visit to the factory manager and was pointing his finger at my lab! One of the houses across the street was still watching BBC Television from Holme Moss on VHF channel 2, while most other people had moved up to channel 12 or UHF. The property owner was reporting terrible interference every few minutes, which blanked out the family's TV reception for many seconds at a time.

I was scratching my head... what could have been left running in the lab over the weekend that could cause interference so far away? Then I remembered! Our volume resistivity tests on electrical insulation were carried out in a constant temperature chamber. PVC samples had to be "conditioned" for several hours in the chamber before their electrical resistance was measured. The chamber was heated by circulating water from a thermostatically-controlled bath. The bath ran continuously, so the chamber temperature could be kept constant on a long-term basis.

I had been adjusting the magnetically-switched thermostat on the water bath for the steadiest temperature, so I took another look at the setup. As the temperature fell, the contacts snapped together and the heater came on. As the temperature rose, the thermostat pulled the contacts apart rather too slowly and... RRRRRR!... there was a visible, extended spark, strong enough to reach the local TV sets and long enough to annoy the viewers. I made some more adjustments to the magnetic switch so the "break" was much snappier and immediately fixed the problem. The bath cycled over a slightly wider temperature range, but there were no more complaints from the TV viewers, and no more calls from the Post Office Inspector.

### More sparks

A few years later, I had moved to Rochdale, and I had an interference problem of my own. I lived on a little hill, 625 feet above sea level, so I was making good use of the VHF weak signal modes on 4 meters, 2 meters and 70 centimeters. Unfortunately, the bands were being disturbed on a regular basis by terrible interference – strong, wideband noise covering all the VHF bands simultaneously. I carried out the usual checks of turning off my own electrical circuits, but with no improvement.

The source of the interference was nearby, but not in my own home... and the Post Office Radio Investigators would not investigate interference to amateur radio reception... so what to do?

I checked on my broadcast radio receiver... the BBC Radio 4 FM transmitter at Holme Moss was line-of-sight from my home and radiating 120 kW ERP on 93.7 MHz. Thanks to strong signals and the noise canceling properties of FM, there was no audible interference. But if I tuned up to the local radio station, BBC Radio Manchester on 95.1 MHz, there was the most awful racket whenever the amateur bands were being disrupted. Radio Manchester was only radiating 4kW ERP toward the city center – but I was within the service area and I could ask the Post Office to investigate.

I filled out the official form and waited for a visit. A few nights later, the P.O. Inspectors arrived in their official vehicle and I prepared to demonstrate the interference. One of the team had a very simple aid –



*The young inspector with the loop antenna shot out of the house, twisting his file folder for peaks and nulls.*

several turns of wire in a large loop, concealed in a file folder, feeding a diode detector and a pair of headphones. He said it was ideal for close-in direction-finding of noise sources.

Unfortunately, things were quiet that evening – no interference to be heard. The Radio Interference team was on the point of leaving, and the people next door were just returning... when RRRRRRRRRRRR... a tremendous noise ripped across the bands. The younger inspector with the loop shot out of my house, twisting his file folder for peaks and nulls. He went straight to the house next door, knocked and disappeared inside.

A few minutes later, I was given the explanation. Next door had a type of wall-mounted gas central heating boiler that was notorious for causing interference while running. The Post Office team could install a suppressor, but next door was unwilling to pay for it.

I made a rapid decision – I would be more than happy to pay for the suppressor, especially if it cleared up all the interference. The inspectors took a few more minutes to install the suppressor on the boiler's power leads. Then we carried out a listening test while the boiler was operating. Perfectly quiet! I thanked them for their help and came away impressed with the speedy way the P.O. Inspectors had cleared up the problem.

— . . . —

I'm sure those visits from Radio Inspectors kept the younger amateurs operating on the right lines, with a healthy attitude toward one's responsibilities as a radio amateur. Amateur radio operation is a privilege that has to be earned – and the best way to keep those privileges is to stick to the rules and operate responsibly. Routine visits from P.O. Inspectors are a thing of the past now – but perhaps it might be a custom worth reviving.

— Malcolm, G3VNQ, NM9J

# PCARA Foxhunt Rules

**Saturday October 7, 2006**

1. Transmission – FM simplex on 146.565 MHz, horizontally polarized.
2. Transmissions start at 3:00 p.m. for 5 minutes, followed by 5 minutes off. Second transmission commences at 3:10 p.m. 3 minutes on, 7 minutes off. The fox will not move during this time. This cycle repeats at 10 minute intervals until the last transmission ends at 4:30 p.m. when the fox will announce its location.
3. The opening transmission will include a time check for watch synchronization.
4. All contestants who wish to be eligible for a prize must book in at the **Beach Shopping Center car park**, in Peekskill before the start. Contestants will count as one team if more than one person occupies a car. (i.e. if three in a car, they don't get first, second and third prize.)
5. No contestant is allowed to move his/her car until the end of the first transmission, so take your time with the first bearing and make it a good one. The transmission will be audible from the start without a super-sensitive receiver.
6. Radio silence will be maintained by all contestants on all frequencies from the first to the last transmission.
7. No excess mileage penalty will be incurred but all contestants are reminded at all times to stay within the law and observe speed limits, parking restrictions etc.



Join the hunt for PCARA's fox on Saturday October 7. Hunters should check-in from 2:30-3:00 p.m. at the Beach Shopping Center in Peekskill, near the Radio Shack store.

immediately. This will ensure that other contestants do not "discover" the fox because a group of people is hanging around nearby. It is requested that you main-

8. The fox will be hidden not more than 5 miles from the start. The location of the fox will not be on property which is inaccessible by car.

9. Upon a contestant finding the fox, please do not shout or in any way give the location away to other contestants. Report your name/callsign to the fox and retire to the place of refreshment

tain radio silence even though the fox has been found and the fact that you have found the fox should not be revealed to anyone until the place of refreshment has been reached.

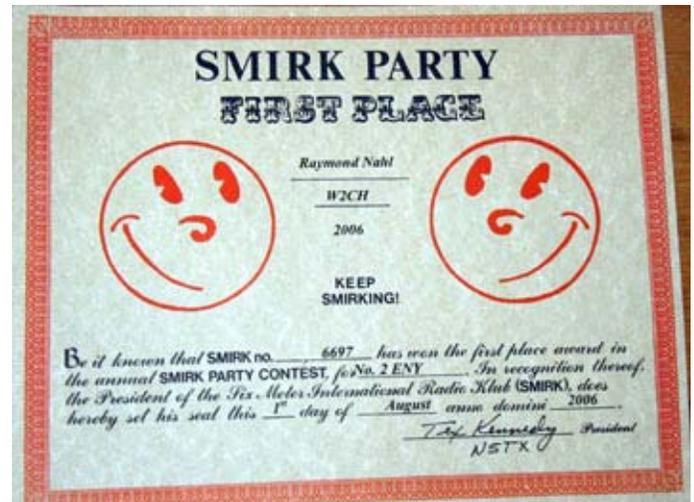
10. The first competitor to locate the fox and positively identify him/her will be presented with a certificate. This competitor will be invited to assume the role of fox for the next foxhunt event.

11. Competitors should convene from 4:30 p.m. at the place of refreshment, which will be announced on-air by the fox.

Rules adapted from Bury Radio Society Fox Hunt, Malcolm, NM9J

## Six meter award

At the September meeting, Ray, W2CH was proudly showing the certificate he was awarded by SMIRK, the Six Meter Amateur Radio Klub, <http://www.smirk.org>. The award was for Ray's first place in East New York in the annual SMIRK Party contest.



SMIRK certificate awarded to W2CH.

The SMIRK contest, held on June 17-18, is for single-operator stations on six meters, operating phone or CW. Scoring includes double points for working stations with a SMIRK number. The final score is obtained from contact points times grid squares worked.

SMIRK exists to promote six meter operation around the world. You can join SMIRK by working six existing members and submitting their calls, SMIRK numbers, and the \$6 membership fee.

# 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. \*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 Oct 1:** October meeting, 3:00 PM. HVHC

**Sat Oct 7:** PCARA Foxhunt. 2:30 for 3:00 p.m. start, Beach Shopping Center, Peekskill.

## Hamfests

**Sat Sep 30:** Bergen ARA Fall Hamfest, Westwood Regional HS, 701 Ridgewood Rd, Washington Twnshp, NJ. 8:00 a.m.

**Sun Oct 1:** Hall of Science ARC, New York Hall of Science, 47-01 111th St, Flushing Meadows Corona Park, Queens, NY. 9 a.m.

**Sat Oct 7:** Ocean-Monmouth RC Tailgate Hamfest. InfoAge Project Diana Site, Marconi Road, Camp Evans, Wall Township, NJ. 7:30 a.m.

**Sun Oct 8:** Nutmeg Hamfest and ARRL State Convention, Mountainside Resort, Wallingford, CT. 6:00 a.m./9:00 a.m.

## VE Test Sessions

**Sep 30:** Bergen ARA, Westwood Regional HS, 701 Ridgewood Rd, Washington Twnshp, NJ. 8:00 a.m. Contact Donald C. Younger, (201) 265-6583.

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

**Oct 12:** WECA, Westchester Cnty Fire Trng Center, 2 Dana Rd, Valhalla, NY. 7:00 p.m. Contact Stanley Rothman (914) 831-3258.

**Oct 16:** 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.

**Oct 27:** Orange Cnty ARC, Munger Cottage Riverlight Park, Hudson St., Cornwall, NY. 6:00 p.m. Contact: Ronald Torpey (845) 783-1692.



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