

Volume 11, Issue 4 Peekskill / Cortlandt Amateur Radio Association Inc. April 2010

Spring forward

With the arrival of Spring, many a ham's fancy turns to thoughts of Field Day. It's never too early to start planning, and this year Field Day is June 26-27, 2010. This will be included in the agenda for the April meeting, so please bring along your ideas and suggestions.

The PCARA 10th Anniversary Special Event Station is **still** in the planning stage. We are trying to coordinate something with the City of Peekskill during their 70th Anniversary Celebration, maybe at the Riverfront Green. Once again, we need some volunteers to spearhead this effort, so if you're interested in helping please let us know.

PCARA has taken tables at the upcoming Orange County (http://www.ocarc-ny.org/ - Saturday April 10) and Mount Beacon (http://www.wr2abb.org/ - Sunday April 25) hamfests. This is a good chance to do some *Spring cleaning* around the shack and get some extra cash for future projects by selling some of your unused equipment. So think about joining us!

Our next meeting is on **April 11, 2010** at Hudson Valley Hospital Center. I look forward to seeing each of you there. [Note modified date, as first Sunday of April is Easter Sunday -Ed.]

- 73 de Greg, KB2CQE

QRP recognition

PCARA columnist Karl N2KZ receives recognition in a different journal this month. A photo of Karl operating 30 meter QRP appears on page 86 of the April issue of *CQ Amateur Radio* magazine.

Karl had worked CQ's QRP columnist Dave Ingram K4TWJ on November 27 and exchanged station details. Dave then included a description of Karl's equipment in his QRP column along with the picture, which also appears in the January 2010 issue of *PCARA Update*.

The sad part of this tale is that the April 2010 issue of *CQ* Magazine contains the very last columns from Dave K4TWJ, as he became a Silent Key on January 20, 2010.



Photo B– Another "ecologically green"-oriented QRPer, Karl Zuk, N2KZ, with his favorite rig—an Oak Hills Research OHR-100A. The mating antenna is a dipole 30 feet above ground. Karl also agrees with my thoughts of 30 meters being the ideal band for QRP. (Photo courtesy of N2KZ)

This photo of Karl, N2KZ operating low power CW appears on page 86 of the April 2010 CQ Magazine.

PCARA Officers

President:

Greg Appleyard, KB2CQE, kb2cqe *at* arrl.net Vice President:

Joe Calabrese, WA2MCR; wa2mcr at arrl.net

Net night

Peekskill/Cortlandt Amateur Radio Association holds a weekly net on the 146.67 MHz W2NYW repeater on Thursdays at 8:00 p.m. Join net control Karl, N2KZ for neighborly news and technical topics.

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Adventures in DXing

– N2KZ

Sounds of Silence

It was too quiet on 146.67 MHz Thursday night, March 4, just before 8 pm. An endless damp and heavy blizzard brought down trees everywhere, pulling down power lines and blocking access roads completely. With no power from normal sources, backup generators exhausted their fuel supplies from days of use without a refill. Our regular repeater site lost power and more than the lights were out! The PCARA weekly Old Goat's Net was about to go on the air but there was no repeater to be found!

Listening carefully, I thought I heard a peep or two on the repeater's output frequency and switched my HT frequency to transmit directly on 146.67 MHz. I could easily hear Malcolm, NM9J and Bob N2CBH and they could hear my HT faintly in the noise. Malcolm and Bob worked quickly and activated our backup repeater. In just a few minutes an operational PCARA repeater was back on the air and so was our net. Great work!

The snow storms also reminded all of us about the usefulness of the standard simplex frequency 146.52 MHz. During the endless deluge of snow, a lot of simplex activity appeared locally. Many hams were looking for simplex contacts as the local repeaters were dropping off and on again along with our AC power. It became an informal emergency preparedness drill reminding us exactly what to do to circumvent obstacles and problems in the future. We live in interesting times!

Reach the Summit

Simplex was on my mind and monitoring 146.52 MHz became part of my daily routine. Two days later, I heard another surprise. Tom, N2YTF, was atop South Beacon Mountain activating the peak for a new amateur radio group called SOTA 'Summits on the Air.' At 1610 feet above sea level, Tom was operating 2 meter FM simplex on summit W2/EH-003 (South Beacon) looking for additional SOTA points for his logbook. Tom needed four QSOs to make his activation official and I chimed in as QSO number four! Many more hams were longing to touch base from way beyond the line-of-sight. Tom was in for a busy afternoon! Fascinating listening!

Tom was using a Yaesu FT-817, running on rechargeable AA batteries at five watts on two meter FM, with a Smiley half-wave antenna attached. Enjoying his superior elevation, Tom held court on 146.52 MHz for quite some time. His good friend, Dave,

W2VV, was using another FT-817 on 20 meter USB using an endfed antenna manufactured by PAR Electronics. Dave has had excellent results with this simple antenna. His signals also attract a lot of attention on a regular basis! Little did I know that I was working two of the top SOTA participants this side of the Atlantic!



You have to admire Tom's enthusiasm. Combin-

The fire tower at South Beacon Mountain supported antennas for Tom N2YTF and Dave W2VV during an earlier SOTA visit.

ing amateur radio and skilled hiking, he has documented hundreds of summits in the W1 and W2 regions (New England, New York and New Jersey) for SOTA's databases and continues to activate them on a regular basis. Nearly every qualifying peak in the Northeast is now listed due to Tom's diligent work. Each summit has to meet specific and precise criteria to be included on SOTA's list. Of course, there is a point system towards earning SOTA awards. Even the awards sound like fun! There's the Mountain Goat Award for climber/activators in the field and the Shack Sloth Award for those contacting the climbers from their easy chairs!

Wait! There's more! Tom, N2YTF, manages the W1 section of the U.S. for SOTA and has developed a couple of interesting awards on his own. Here's one to be particularly proud of: *Master of the Black Dog*! To earn this award, an amateur must activate *and survive* reaching every summit in the Hanging Hills Region of South-Central Connecticut known for its mountainous traprock ridges. Tom describes it as a 'range known for its microclimate ecosystems, rare plant communities and expansive views from cliffs that rise abruptly over 700 feet above the surrounding landscape.' Now, that's a challenge!

Tom's award honors the legend of the Black Dog: 'Folklore holds that a spirit has haunted this region since the early 1800s and manifests itself as a small Black Dog, often gregarious in nature, leaving no footprints and making no sound. According to legend, to see the black dog the first time results in joy while a second sighting results in misfortune. Seeing the Black Dog a third time is said to be a death omen!'

One of the earliest accounts of the Black Dog was published in the Connecticut Quarterly, (April-June, 1898) by New York geologist W.H.C. Pynchon. According to Pynchon, in February 1891 he and geologist Herbert Marshall of the United States Geological Survey were conducting geologic research in the Hanging Hills when they saw The Dog. Pynchon had seen The Dog once before. Marshall, who had seen The Dog twice before, scoffed at the legend. Shortly after the two of them saw The Dog, Marshall slipped on the ice atop one of the cliffs and plunged to his death. His body was later recovered by authorities.'



Tom, N2YTF with IC-706 and PAC-12 antenna atop a Connecticut summit.

The other W1 section award is no less prestigious: *The King of Connecticut Award and Title*. To earn this award, you need to climb every summit in Connecticut, activate them as a SOTA event – and – contact someone else while *they* are activating each and every one of the Connecticut summits! These awards require great effort, skill and stamina!

For a primer on all things SOTA, visit their main web site: http://www.sota.org.uk/. As you might suspect from the URL, SOTA began in Britain. Two hams, John G3WGV and Richard G3CWI, culled the idea after being part of the Adventure Radio Society best known for their Flight of the Bumblebees and Spartan Sprint QRP CW events. Now, SOTA is an international association followed by hundreds of hams.

Want a taste of sky high fun? Watch Tom in action on YouTube as he works his first summit to summit

QSO: http://www.youtube.com/

watch?v=MzeF8L0eFMs. Then, check out SOTA Watch at http://www.sotawatch.org/ for the latest news regarding current and upcoming summit events. See if you can reach peak performance!

Peakin' the Beacon

You never know what you will hear on 40 meters! Installed in my bathroom's linen closet is my trusty Realistic DX-160 connected to a very simple wire antenna hung out to a nearby tree. I use it to listen to 40 meter CW while I am shaving and showering. (Doesn't everyone?) I hear all sorts of traffic: fast DX QSOs in the lower 25 kHz, W1AW practices, lots of CW traffic nets, slow coders up in the 'Novice' segment from 7100 to 7125 kHz and QRPers around 7030 to 7040 kHz. Surprise hit me one morning when I actually heard what sounded like a beacon up around 7107 kHz. Quite unusual!

It didn't take me very long to ID the station. The signal was solid with a callsign of AD4C hailing from Lake Worth, Florida, just south of the Palm Beach International Airport. I dropped a line to its owner,

Hector. and received a quick reply. The original beacon used an Icom IC-7000 running at just five watts to an inverted V windom up about 40 feet installed where Hector works. When I first heard it, the beacon's power had



The original AD4C beacon.

been cranked up to ten watts. Recently, Hector sold his IC-7000 and bought a near-mint IC-746 Pro. The AD4C beacon is now being produced by a sweet Elecraft K-3 running ten watts to a simple 20 meter dipole up about 20 feet at his home QTH. Hector reports that the beacon is now getting out better than ever! I bet you can hear it, too. Give it a try! VVV DE AD4C BCN EL96 K!

PM in the PM

Sometimes adventures arrive by invitation. One recent afternoon, I saw a posting on one of my QRP CW Internet reflectors from a ham in Colorado Springs, Colorado. 'I will have my Heathkit HW-7 out in the park at 1830z, 17 Mar. 10, around 14060 kHz. It's an old Green Radio. I built my HW7 in 1974. What a cool rig! It only puts out 1 watt and with my short whip my ERP will be around 1/2 watt (QRPp). I am running 14V off of Li-ion cells. I will be using my 10



foot whip with a drag wire.' Hey, I own an HW-7, too! I looked up at the clock. Holy cow! It's 1830 right now!

I hopped into my office and quickly set up my Small Wonder Labs SW+20 one watt ORP transceiver. Nearly instantly, I heard Paul calling CQ DE WORW/PM. 'I give up? What's PM?' Paul explained the meaning: Pedestrian Mobile. A follow-up picture, via e-mail, was worth a thousand words. Paul was using a first-generation Heathkit QRP rig, with a direct conversion receiver, hooked up to a loaded whip on his back and a drag wire as a counterpoise. Amazing! Paul

Paul WORW operating pedestrian mobile from Colorado.

worked W3FF, Bud in Pennsylvania (inventor of the Buddipole line of antennas,) NU6I, Yvon in California, WB4MED, Johnny in Florida and N7BAV, Ed in Oregon all within an hour. Paul's output power? About a watt! Quite an afternoon!

Tale of Three Batteries

My rig for 2 meters and 70 cm FM is my reliable Icom IC-T7H handi-talkie. I have been using it, with its original NiCad battery pack, since 2001. This extended life battery, an Icom BP-173, is rated at 9.6 volts at 650 milliamp hours. I can talk actively for about an hour and a half before the battery depletes. I've always wanted to have a second battery, so I began a quest to find one.

I was disappointed to find that Icom no longer makes this battery. I discovered what seemed to be a fitting replacement, manufactured by MAHA, popular for its after-market and other rechargeable batteries, and ordered one via the Internet. A few days later, the battery arrived. The case did not lock well to the body of the HT. Even worse, the three small connection tabs were manufactured too small. It did not make a good electrical connection. My HT was flashing on and off at will. Back it went!



Maha NiMH replacement for the Icom BP-173 NiCd battery had shorter connection tabs than the original.

More research found another replacement, this time using more modern cells creating a rated output of 1450 milliamp hours. The manufacturer, W&W Manufacturing Company, was recommended by Icom as a source for replacements of obsolete types. My first order proved disappointing. What W&W does is *remanufacture* old batteries. Although they claim these are all-new in design, the first one I received was actually made from an old Icom shell, carefully cracked open, rebuilt with new cells and then resealed with what appeared to be Krazy Glue. The gluing was sloppy and was not secured all the way around the case. It did not seat well, either. Another trip to the post office!

The second W&W replacement battery was satisfactory. Yes, it had been rebuilt, but the case was in excellent shape and the gluing had been done with much more skill and care. I have used it for a couple of weeks and have had great results with the length of each charge. But, this was only the first part of my HT re-habilitation project!

Tale of Two Antennas

The Icom IC-T7H comes with a short and concise dual-band 'rubber duck' antenna (model FA-1443B.) For casual use and easy travel, this antenna is quite satisfactory. I live a reasonable distance from the PCARA 2 meter repeater and hand-held transmission at street level can be unreliable and intermittent. I often have to resort to the PEARL or WECA repeaters for a good rag chew while walking the dog or bicycling.

There is always room for improvement. I studied various types of extended range antennas for two



meters and wondered about their performance. I also asked friends about their experiences with longer whips. Luck was with me! One of my friends sent me an extra AEA Model HR-1 'Hot Rod' antenna for 2 meters. It is a long whip, about 40 inches long fully extended and seems to have a little matching trick at its base right above the BNC connector.

I must admit I was very impressed with its performance. AEA claims this whip provides about 10 db of gain over short 'rubber ducks.' I believe them! Using this antenna from the back deck of my house, I could reach the LIMARC 2 meter machine on 146.850 MHz in Queens and the Poughkeepsie machine on 147.045 MHz with authority. Quite an improvement! I wouldn't dream of coverage like this before! My Hot Rod HR-1 will see a lot of activity this spring! I guess the makeover of my Icom HT is now complete!

AEA HR-1 halfwave antenna alongside HT with standard antenna.

Big Release from Small Wonder

Known for superior QRP and PSK31 kits worldwide, Dave Benson's Small Wonder Labs has just released the 'Retro-75,' an all-new kit for those who want to get back to basics *and use a microphone*. Dave's new design resembles his other kits: A nicely laid-out one board true wonder – an all-inclusive transceiver for 75 meter AM! It's capable of transmitting on two crystal-controlled frequencies (the AM 'watering hole' frequency of 3885 KHz is supplied with



Small Wonder Labs "Retro-75" 80 meter AM transceiver.

the kit.) The receiver can tune a full 50 kHz span from a center frequency you determine when you build the kit. Take a look at the assembly manual and you'll think 'how sweet it is!'

When you complete the board, you can expect the transmitter will produce about 2 watts of carrier and 6 watts or more with peak modulation. The receiver requires a very simple three-step alignment. The transmitter flies immediately. As usual with Dave's designs, the 'Retro-75' is a thoughtful transceiver designed for ease of assembly, low power consumption and big fun. From his QTH in New Hampshire, Dave (K1SWL) has worked several amateurs in New England and Long Island using an 88-foot center-fed antenna at a height of 45-50 feet.

A full product description can be found at: http:// smallwonderlabs.com/Retro-75.htm. You can download the full manual and also see what the unit looks like close-up. Members of the New Jersey QRP club are already considering establishing a weekly net for those using the Retro-75. Read all about it: http:// groups.yahoo.com/group/njqrp/message/1644. A more exciting new product would be hard to find!

Goodbye, Sweden!

One of my very favorite international broadcasters, Radio Sweden International, will be closing down

its medium wave and shortwave transmitters at the end of October 2010. I have been listening to this station since the advent of my first SW



receiver, a Hallicrafters S-120, back in June of 1965!

Many people will remember Sweden Calling DXers with Arne Skoog and, later on in time, George Wood. It served as the world's premiere source of DX tips and news. Also popular were Bill Schiller's postage stamp collecting features.

SRI will also close down their mighty 600 kilowatt medium wave outlet on 1179 kHz heard throughout Europe and beyond. This will leave a new gaping hole (and DX opportunities) on this frequency that has been synonymous with Radio Sweden for decades and decades. Their English broadcasts will continue via daily podcasts available via iTunes (simply type 'Radio Sweden' into the search window) or directly at: http:/ /www.sr.se/cgi-bin/International/nyhetssidor/ index.asp?nyheter=1&ProgramID=2054

And Finally!

The world continues to change. Last month, I featured The Joey Reynolds Show heard on WOR 710 New York and WWKB 1520 Buffalo along with many other nationwide affiliates. Only days after the March

2010 PCARA Update was released, WOR announced they were canceling Joey, after a 14 year run, to make

room for Coast to Coast AM with George Noory. Coast to Coast AM was recently dumped by WABC 770 and was desperate for



a new home in the pivotal #1 New York City market. A deal was cut with WOR owner Buckley Broadcasting and Joey had to move aside. Joey's final radio show will be early Friday morning, April 2.

Joey isn't dead yet! WNBC-TVs virtual channel 4.2, known as NY Nonstop, is developing a new television show featuring Reynolds to be presented overnights live from Times Square. A show preview can be seen at http://www.joeyreynolds.tv. 'All Night with Joey Reynolds' should premiere in the next few months.

I'm not yet dead, either! I can be heard Thursday nights at 8 pm hosting PCARA's Old Goat's Net. Look for our whole gang on 146.67 MHz with a -600 kHz offset and a 156.7 Hz PL. We would be glad if you'd

join us! If you can't hear the repeater directly, you can listen in over the Internet at: http://

www.radioreference.com/apps/audio/ ?action=wp&feedId=3186. You'll hear ham radio news, a calendar of events, boat anchor nostalgia, uncontrollable merriment – and – *the question of the week!* Make sure you tune in!



Until next month, happy trails and 73s from N2KZ Karl. Dit dit!

Essential₂ staying up

Mention has been made in these pages of the great snow of 2010, when around 18 inches of snow fell on Northern Westchester. Apart from the exciting net night, members were hearing the crash of tree limbs as they became overloaded with snow, followed (in some cases) by a lack of reception as antennas were brought down and a lack of 120 volt AC as power lines suffered a similar fate.

In my own case, large branches of a pear tree came down across mast stays and the tree branches won. After making emergency repairs, I had to fix the guys on a more permanent basis, and that's where I had to make an illuminating visit to Home Depot.

As Greg, KB2CQE has pointed out, every visit to Home Depot becomes a little radio adventure if you use your imagination. I knew where the wire rope and clamps were kept, so it was a case of choosing the best items to replace failed parts. One of the guys was buried under a tree branch, but it was clear that the steel wire I installed twenty years ago had rusted badly and could not stand the additional strain . (The surprise was, how much strength was left in it, when I had to cut through the old wire to remove it.)

Home Depot offers several choices in wire rope – I was torn between 3/16 inch galvanized steel rope and the more expensive 3/16 inch stainless steel rope.

A quick word about the chemistry involved (what



Home Depot offers wire rope and clamps that are essential for keeping up antennas.

else were you expecting in an Essential2 article?). As you probably know, steel consists largely of the element iron (chemical symbol Fe). Pure iron is a soft metal that becomes covered in a brown coating of iron oxide (rust) when exposed to air. Metal oxides usually adhere strongly to the metal surface, protecting the underlying metal from further attack – examples include aluminum and zinc, which are protected, or "passivated" by a thin layer of aluminum oxide (Al₂O₂) or zinc oxide (ZnO) on the surface. Unfortunately, this is not the case with iron, where the initially-formed ferrous oxide, FeO is attacked by water and more oxygen, leading to hydrated ferric oxide (rust). The layer of iron rust offers no protection at all to the underlying metal – it is porous, allowing more oxygen and water to reach the metal below, and eventually flakes off as a brown, powdery material. Corrosion of iron is accelerated by acidic conditions, for example from carbon dioxide dissolved in the water or from acid rain.

Most of the iron we use is not the pure element, but is modified by the addition of other materials. A few percent of carbon and other impurities left over from the smelting process results in a brittle product known as cast iron. Oxidation of the main impurities within a blast furnace produces alloys with less than 2% of carbon – and they are known as mild steel. These small amounts of carbon have a major effect on the strength of pure iron, making steel a favored material for construction.

Unfortunately, mild steel is still subject to corrosion by air and water, so it has to be protected. There are several techniques to stop corrosion of the surface, including painting, cathodic protection and coating with another metal. Coating of steel with zinc is known as **galvanizing**. Coating steel with tin results in **tin plate**.

Galvanized steel was one of the materials available at Home Depot for my wire and clamps to repair the mast stays. The coating is applied by hot-dipping the finished steel article in molten zinc or by electrolysis. Galvanized steel is an effective material for this type of application, but unfortunately it does not last forever and is not recommended for corrosive environments. Eventually the zinc coating will corrode through or be removed by mechanical damage. At that point the underlying steel may still be protected for a time by cathodic protection as the zinc dissolves in preference. But eventually, the iron will corrode and weaken the structure, as I found with my twenty year old steel wire.

An alternative to galvanized steel is stainless steel — this is a modified form of mild steel with 10-29% of chromium added. Chromium metal reacts with oxygen to form chromic oxide (Cr_2O_3) and the thin layer of chromic oxide protects the steel surface far more effectively than iron oxide protects mild steel. Stainless steel is a relatively modern material, not patented until 1915. Stainless steel was used on the entrance to the Savoy Hotel in London in 1929 and for the upper cladding of New York's Chrysler Building, completed in 1930.

So, I chose stainless steel wire rope and fittings to replace one stay. The second stay had suffered a failure of the steel clamps. I replaced the old clamps



The 70-year old stainless steel entrance canopy to London's Savoy Hotel was cleaned, repaired and reinstalled in 1999.

with newer galvanized ones and took care to protect all the fittings with grease. In the past, I've recommended silicone grease applied to the threads of the U-bolts for this type of protection, but in recent years I've



Lithium grease is available in aerosol spray cans at Home Depot.

changed over to lithium grease. Silicone grease is a messy material, which has to be squeezed from a tube, but lithium grease can be sprayed from an aerosol can, giving better coverage and penetrating the crevices between metal parts.

Lithium grease is water resistant and will stay in place on metal surfaces, even if the surface is subject to stress and high temperatures. The main application around the home is for remote-operated garage doors, where a stable lubricant is needed on the sliding metal parts. Lithium grease is made by dissolving metal soaps such as lithium stearate or lithium hydroxystearate in mineral oil – the metal soap thickens the oil to produce a gel. Additional ingredients may be included to improve the corrosion protection and lubricating properties.

- NM9J

Mystery object

Can you identify the small piece of equipment pictured here? Mike, N2EAB brought this tiny "Scout"

RF detector to the March PCARA meeting. All that is known about is that it dates back to the 1970s and it detects nearby RF. Nothing has been found on the Internet to identify it any further.



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Peekskill / Cortlandt Amateur Radio Association

Mail: PCARA, PO Box 146, Crompond, NY 10517 E-Mail: w2nyw@arrl.net 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 Apr 11 2010: PCARA monthly meeting, Hudson Valley Hospital Center, 3:00 p.m.

Hamfests

Sat Apr 10: Orange County ARC Spring Hamfest, Town of Wallkill Community Center, 2 Wes Warren Drive, Middletown, NY. 8:00 a.m. **Club Table**.

Sat Apr 10: BSA Venture Crew 7373 Hamfest, St John Church Hall, 19 William St., Bergenfield NJ.
Sun Apr 11: Splitrock ARA North Jersey Hamfest, Roxbury Senior Cntr, 72 Eyland Ave, Succasunna NJ. 8:00 a.m.

Sun Apr 25: Mt. Beacon ARC Hamfest, Tymor Park, Lagrangeville, NY. 8:00 a.m. **Club Table**.

Sat May 29: Bergen ARA Spring Hamfest, Westwood Regional HS, 701 Ridgewood Rd, Washington Twnshp, NJ. 8:00 a.m.

VE Test Sessions

Apr 8: WECA, Westchester Co Fire Trg Cenrter, 4 Dana Rd., Valhalla, NY. 7:00 p.m. Contact Stanley Rothman, 914 831-3258. **Apr 10:** Orange Cnty ARC, Town of Wallkill Community Center, 2 Wes Warren Rd, Middletown, NY. 8:30 a.m. Contact Ronald Torpey, 845 234-2371.

Apr 16: Bergen ARA, Westwood Regional HS, 701 Ridgewood Rd, Washington Township, NJ. 7:00 p.m. Contact Donald Younger, 201 265-6583.

Apr 19: Columbia Univ VE Team, 2960 Broadway, 115 Havemeyer Hall, New York NY. 6:30 p.m. Contact Alan Croswell, (212) 854-3754.

Apr 25: Mt Beacon ARC Hamfest, Tymor Park, LaGrangeville NY, 9:00 a.m. Contact Andrew Schmidt, 845 297-4238.



Peekskill / Cortlandt Amateur Radio Association Inc. PO Box 146 Crompond, NY 10517